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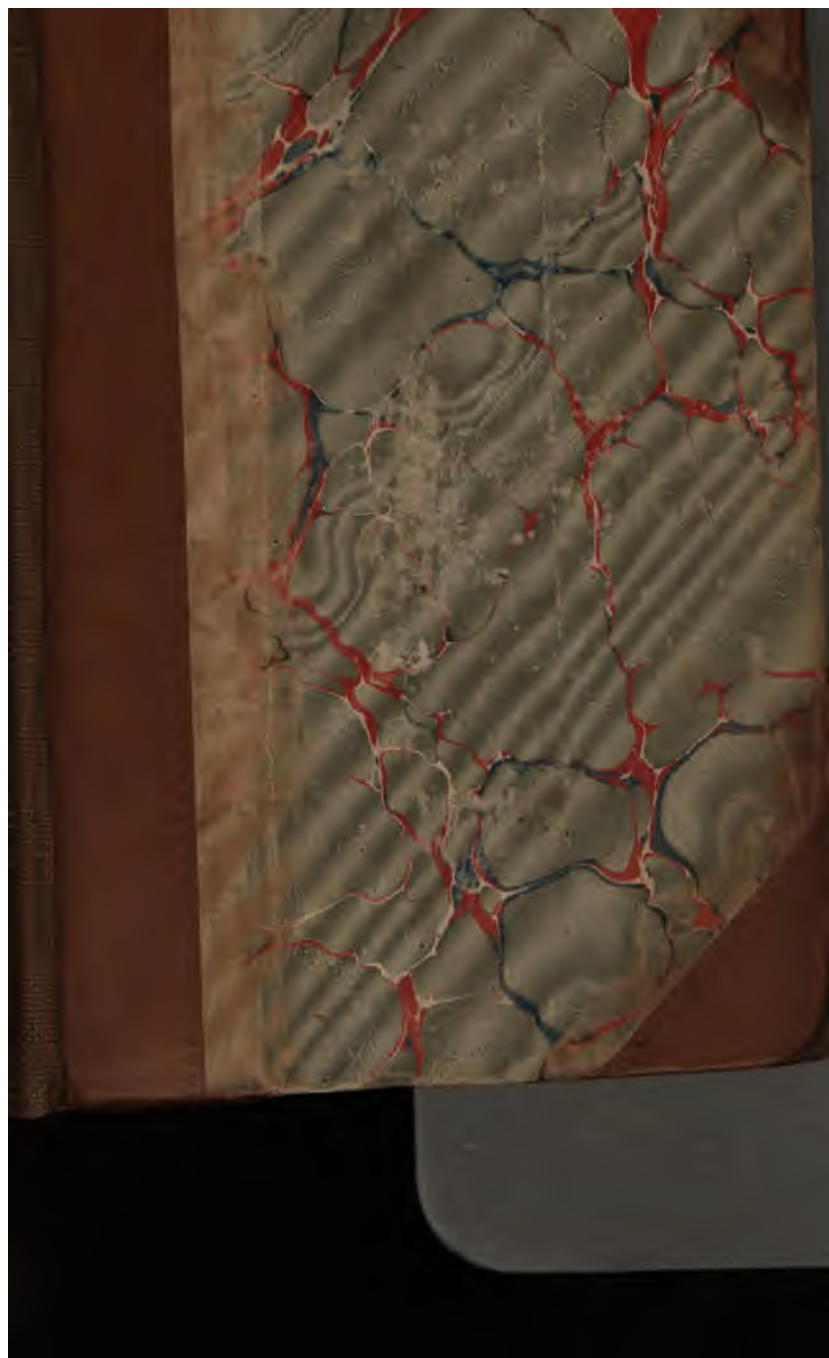
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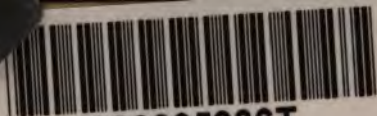
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A
NATURAL HISTORY
OF
The Globe, and of Man;
EASTS, BIRDS, FISHES, REPTILES, AND INSECTS.

FROM THE
WRITINGS OF BUFFON, CUVIER, LACEPEDE,
AND OTHER EMINENT NATURALISTS.

TO WHICH ARE ADDED,
ELEMENTS OF BOTANY.

WITH UPWARDS OF
FOUR HUNDRED ENGRAVINGS ON WOOD.

IN FOUR VOLUMES.
VOL. II.

BUFFON'S
NATURAL HISTORY

OF

The Globe, and of Man;
BEASTS, BIRDS, FISHES, REPTILES, AND INSECTS.

CORRECTED AND ENLARGED

By JOHN WRIGHT, M. Z. S.



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BUFFON'S NATURAL HISTORY.

PART I.

CHAPTER XIV.

Of Carnivorous Animals continued...The Lion...The Bengal Lion...The Lioness and her Cubs...The Cape Lion...The Puma, or American Lion...The Tiger...The Leopard...The Jaguar...The Panther...The Chetah...The Lynx...The Caracal...The Striped Hyæna...The Spotted Hyæna...The Civet and Zibet...The Javanese Civet...The Genet...The Paradoxurus...The Prehensile Paradoxurus...The Ondatra, and Desman.

THE LION.

IT has been remarked, that in all hot climates, the terrestrial animals are larger and stronger than in cold or temperate ones. They are also bolder and more ferocious, all their natural qualities seeming to partake of the ardour of the climates in which they live. The Lion, born beneath the burning sun of Africa, or of India, is above all others the fiercest and most terrible. Our wolves, our other carnivorous animals, far from being his rivals, are hardly worthy

to be his providers. The Lions of America (if, indeed they deserve to be called Lions) are, like the climate in which they are produced, infinitely milder than those of Africa; and, what plainly proves that the degree of fierceness in this animal depends on the degree of heat, is, that, even in the same country, those which inhabit the high mountains, where the air is more temperate, are different in disposition from those that dwell in the plains, where the heat is excessive.

As the Lion has no enemy but man, and his species is now probably reduced to the fiftieth part of what it formerly was, it follows, that the human race, instead of having suffered a considerable diminution since the time of the Romans, is, on the contrary, more numerous and more generally diffused. This superiority in the numbers, and the arts of the human species, while it suffices to conquer the Lion, serves also to enervate and to discourage him; for he is brave only in proportion to the success of his former encounters. Accustomed to measure his strength with every animal he meets, the habit of conquering renders him intrepid and terrible. Having never experienced the dangerous arts and combinations of man, these animals have no apprehensions from his power. They boldly face him, and seem to brave the force of his arms. They are not daunted even with the opposition of numbers: a single Lion of the desert often attacks an entire caravan; and, after an obstinate combat, when he finds himself overpowered, instead of flying, he continues to combat, retreating, and still facing the enemy till he dies. On the contrary, the Lions which inhabit the peopled countries of Morocco, or India, having become acquainted with man, and experienced the

superiority of his arms, have lost all their courage, so as to be scared away with a shout; and seldom attack any but the unresisting flocks or herds, which even women and children are sufficient to protect.

The outward form of the Lion seems to speak the superiority of his internal qualities. His figure is striking, his look confident and bold, his gait proud, and his voice terrible. His stature is not overgrown, like that of the elephant, or the rhinoceros; nor is the shape clumsy, like that of the hippopotamus, or the ox. He is in every respect compact and well-proportioned, a perfect model of strength joined with agility.

His force and muscular power he manifests outwardly by his prodigious leaps and bounds; by the strong and quick agitation of his tail, which alone is sufficient to throw a man on the ground; by the facility with which he moves the skin of his face, and particularly that of his forehead, which adds greatly to his physiognomy, or rather to the expression of fury in his countenance; and lastly, by the facility he has of shaking his mane, which is not only bristled up, but moved and agitated on all sides when he is enraged.

The largest Lions are about eight or nine feet in length, from the snout to the insertion of the tail, which is of itself four feet long; and these large Lions are about four or five feet in height. Those of the small size are about five feet and a half in length, and three and a half in height. In all her dimensions, the Lioness is about one fourth less than the Lion.

The Lion is furnished with a mane, which becomes longer in proportion as he advances in age. The Lioness, however, is without this appendage at

every age. The American animal, which the natives of Peru call PUMA, and to which the Europeans have given the denomination of *Lion*, has no mane; it is also much smaller, weaker, and more cowardly than the real Lion. In truth, it is more than doubtful whether these animals are at all of the same species.

Both the ancients and the moderns allow that the Lion, when newly born, is in size hardly superior to a weasel; in other words, that he is not more than six or seven inches long; and if so, some years at least must necessarily elapse before he can increase to eight or nine feet. They likewise mention, that he is not in a condition to walk till two months after he is brought forth; but, without giving entire credit to these assertions, we may, with great appearance of truth, conclude that the Lion, from the largeness of his size, is at least three or four years in growing, and that, consequently, he must live seven times three or four years, that is, about twenty-five years.

It is usually supposed that the Lion is not possessed of the sense of smelling in such perfection as most other animals of prey. It is also remarked, that too strong a light incommodes him; that he seldom goes abroad in the middle of the day; that he commits all his ravages in the night; and that when he sees a fire kindled near a herd or flock, he will not venture near it; that though his sight is bad, it is not, however, so faulty as his smell; and that, unlike the dog or the wolf, he rather hunts by the former than by the latter.

The Lion, when hungry, boldly attacks all animals that come in his way; but, as he is very formidable, and as they all seek to avoid him, he is often obliged

to hide, in order to take them by surprise. For this purpose he crouches upon his belly, in some thicket, or among the long grass, which is found in many parts of the forest. In this retreat he continues, with patient expectation, until his prey comes within a proper distance; and he then springs after it with such force, that he often seizes it at the first bound. If he misses the effort, and in two or three reiterated springs cannot seize his prey, he continues motionless for a time, seems to be very sensible of his disappointment, and waits for a more favourable opportunity. He devours a great deal at a time, and generally fills himself for two or three days to come. His teeth are so strong that he very easily breaks the bones, and swallows them with the rest of the body. It is reported that he sustains hunger a very long time; but thirst he cannot support in an equal degree, his temperament being extremely hot. He drinks as often as he meets with water, lapping like a dog. He generally requires about fifteen pounds of raw flesh in a day; and seldom devours the bodies of animals when they begin to putrefy; but he chooses rather to hunt for fresh spoil than return to that which he had half devoured before. While young and active, the Lion subsists on what he can obtain by the chase, and seldom quits his native deserts and forests; but when he becomes old, heavy, and less qualified for exercise, he approaches the habitations of man, to whom, and to domestic animals, he then becomes a more dangerous enemy. It is observed, however, that when he sees men and animals together, it is always on the latter, never on the former, that he vents his fury; unless indeed he should be struck, and then, at no loss to know whence the blow came, he

instantly deserts his prey, in order to obtain revenge for the injury. The flesh of the camel he is said to prefer to that of any other animal. He is likewise exceedingly fond of that of young elephants, which, from their inability to resist him till they have received the assistance of their tusks, he easily dispatches, when unprotected by the dam; nor are there any animals able to oppose the Lion, but the elephant, the rhinoceros, the tiger, and the hippopotamus.

However terrible this animal may be, it is not uncommon, with dogs of a large size, and well supported with a proper number of men on horseback, to chase him, dislodge him, and force him to retire. But for this enterprise it is necessary that the dogs, and even the horses, should be previously disciplined; since almost all animals tremble and fly at the very smell of the Lion.

Though the skin of the Lion is firm and compact, it is not, however, proof against a musket ball, nor even a javelin; but he is seldom known to be dispatched with one blow. Like the wolf, he is frequently taken by stratagem; and for this purpose a deep hole is dug in the earth, over which, when slightly covered with earth and sticks, some living animal is fastened as a bait. When thus entrapped, all his fury subsides; and if advantage is taken of the first moments of his surprise, or his disgrace, he may easily be chained, muzzled, and conducted to a place of security.

The flesh of the Lion is of a strong and disagreeable flavour; yet the Negroes and the Indians do not dislike it, and it frequently forms a part of their food.

The good qualities, and particularly the courage

and magnanimity, of the Lion have been the theme of panegyric to Buffon, and other writers on natural history. Later naturalists, however, are disposed to estimate his merits at a much lower rate. "At the time when men first adopted the Lion as the emblem of courage (says that intelligent traveller Mr. Burchell) it would seem that they regarded great size and strength as indicating it; but they were greatly mistaken in the character they have given to this indolent, skulking animal, and have overlooked a much better example of courage, and of other virtues also, in the bold and faithful dog." Mr. Barrow also brands him with the character of cowardly and treacherous.

"His forbearance and generosity (says Mr. Bennett), if the facts be carefully investigated, will be found to resolve themselves into no more than this: that in his wild state he destroys only to satiate his hunger or revenge, and never, like the 'gaunt wolves' and 'sullen tigers,' of whom the poet has composed his train, in the wantonness of his power and the malignity of his disposition; and that, when tamed, his hunger being satisfied, and his feelings being free from irritation, he suffers smaller animals to remain in his den uninjured, is familiar with, and sometimes fond of, the keeper, by whom he is attended and fed, and will even, when under complete control, submit to the caresses of strangers.

"But even this limited degree of amiability, which, in an animal of less formidable powers, would be considered as indicating no peculiar mildness of temper, is modified by the calls of hunger, by the feelings of revenge, which he frequently cherishes for a considerable length of time, and by various other circumstances, which render it dan-

gerous to approach him unguardedly, even in his tamest and most domesticated state, without previously ascertaining his immediate state of mind. On such occasions, no keeper possessed of common prudence would be rash enough to venture on confronting him: he knows too well that it is no boy's play to

——— seek the Lion in his den,
And fright him there, and make him tremble there ;

for in this state of irritation, from whatever cause it may have arisen, he gives free scope to his natural ferocity, unrestrained by that control to which at other times he submits with meek and unresisting patience."

It appears, however, to be a well authenticated fact, that neither the Lion nor the tiger can bear the steady gaze of the human eye, but are completely cowed by it. A writer in *The South African Journal* says, "The Bechuano chief, old Peyshow (now in Cape Town) conversing with me a few days ago, said that the Lion very seldom attacks man if unprovoked; but he will frequently approach within a few paces and survey him steadily; and sometimes he will attempt to get behind him, as if he could not stand his look, but was yet desirous of springing upon him unawares. If a person in such circumstances attempts either to fight or to fly, he incurs the most imminent peril, but if he have sufficient presence of mind coolly to confront him, without appearance of either terror or aggression, the animal will, in almost every instance, after a little space, retire. The overmastering effect of the human eye upon the Lion has been frequently mentioned,

though much doubted by travellers ; but, from my own inquiries among Lion hunters, I am perfectly satisfied of the fact ; and an anecdote related to me a few days ago, by Major Macintosh, proves that this fascinating effect is not restricted to the Lion. An officer in India, well known to my informant, having chanced to ramble into a jungle, suddenly encountered a royal tiger. The rencontre appeared equally unexpected on both sides, and both parties made a dead halt, earnestly gazing on each other. The gentleman had no fire arms, and was aware that a sword would be no effective defence in a struggle for life with such an antagonist ! But he had heard that even the Bengal tiger might be sometimes checked by looking him firmly in the face. He did so : in a few minutes, the tiger, which appeared prepared to make his final spring, grew disturbed—slunk aside—and attempted to creep round upon him behind. The officer turned constantly upon the tiger, which still continued to shrink from his glance ; but darting into the thicket, and again issuing forth at a different quarter, it persevered for above half an hour in this attempt to catch him by surprise ; till at last it fairly yielded the contest, and left the gentleman to pursue his *pleasure walk*. The direction he now took, as may be easily believed, was straight to the tents, at double quick time.”

It will now be proper to give some description of the two species of Lions, the Asiatic and the African. The wood cuts, in illustration, represent animals which are now in the Tower Menagerie.

THE BENGAL LION.



THE uniformity of his colour is one characteristic which distinguishes the Lion from his congeners of the feline race. Except in his young state, when there is an appearance of stripes, he is of a pale tawny above, which becomes somewhat lighter beneath. A second mark is, the long and flowing mane of the full grown male, which, commencing nearly at the root of his nose, extends backwards over his shoulders, and gracefully undulates on each side of his face and neck. A third is, a long and blackish tuft of hairs which terminates his tail. In size, the Asiatic Lion rarely equals the Southern African. He is of a more uniform and pale yellow, and has a peculiar appendage in the long hairs which begin beneath the neck, and occupy the whole of the middle line of the body below.

The individual depicted in the cut is called "the Old Lion," though he is only five years old. This denomination, however, is given only to distinguish him from the Cape Lion, which has been for a shorter period in the Tower. George was his original name.

George and his female companion were taken in Bengal, in 1823, by General Watson. The general while out one morning on horseback, with a double barreled rifle, was suddenly surprised by a large male Lion, which bounded out upon him from a thick jungle. He fired, and it fell dead almost close to his feet. A female then darted out upon him. He wounded her, and she fled into the thicket. Suspecting that her den was close at hand, he followed, soon tracked her to it, and completed her destruction. "In the den were found a beautiful pair of cubs, male and female, supposed to be then not more than three days old. These the general brought away with him, and succeeded, by the assistance of a goat, who was prevailed upon to act



in the capacity of foster mother to the royal pair, in rearing them until they attained sufficient age and strength to enable them to bear the voyage to England. On their arrival in this country, in Sep-

tember, 1823, he presented them to his majesty, who commanded them to be placed in the Tower. The male of this pair is the subject of the present, the female that of the succeeding article."

George is fed once in twenty-four hours; and his meal is generally eight pounds of beef, exclusive of bone. This he seizes greedily, tears instantly to pieces with his claws, and ravenously devours; unlike Lions in a state of nature, who, after having slain their victim, are said to pause over it for a considerable time before they satisfy their appetite.

THE LIONESSE AND HER CUBS.



THE Lioness has no mane, is of smaller size than the Lion, more slenderly and delicately made, and more graceful and agile in her movements. The head of the Lion is almost uniformly elevated; that of the Lioness is almost uniformly carried on a level with the line of her back, which gives her a sullen and downcast look.

For a considerable time after her arrival in England, the Lioness, as well as the Lion, was exceedingly tame and docile, and was often allowed to roam at large about the open yard. They were both, however, at length put under more restraint, in the fear that they might eventually do mischief. But even long after this, "her disposition was far from exciting any particular fear in the minds of her keepers. As an instance of this, we may mention that when, on one occasion about a year and a half ago, she had been suffered through inadvertence to



leave her den, and when she was by no means in good temper, George Willoughby, the under keeper, had the boldness, alone, and armed only with a broom, to venture upon the task of driving her back into her place of confinement, which he finally accomplished, not however, without strong symptoms or resistance on her part, as she actually made three springs upon him, all of which he was fortunate enough to avoid."

Since, however, she gave birth to her Cubs, her temper is totally changed. She is violent beyond measure, suspects every one who approaches her den of an intention to rob her of her cherished offspring, and, as Mr. Bennett eloquently expresses it, "ex-

hibits the truly beautiful but appalling picture of maternal tenderness combined with savage ferocity, each in their utmost intensity of force and colouring."

The Cubs, of which there are three, two male and one female, were whelped on the 20th of October, 1827, the day of the battle of Navarino. They are the finest that were ever bred in England, and, at present, are in the best condition. They have all the playfulness of kittens, and their dam is unremittingly assiduous in licking their fur and keeping them in a state of cleanliness.

THE CAPE LION.



OF the Cape Lion there are two varieties, which, from the tint of their coats, and particularly of their manes, are designated by the settlers as the Pale and the Black Lion. The latter of these is the larger

and more ferocious of the two, and occasionally is found of the enormous length of eight feet from the tip of the nose to the origin of the tail. The tail is usually about half the length of the body. The pale variety is the more common. In the Tower there are specimens of both species.

The colonists at the Cape bear the Lion a deadly hatred for the mischief which he does to them, particularly in the destruction of their horses, for the flesh of which he seems to have an especial liking. Being excellent marksmen, they will almost attack him singly; but the more common mode of attacking him is by hunting parties.

The hunting of an African Lion is described with infinite spirit by Mr. Pringle, who was a settler on the eastern frontier of the Cape colony. "One night (says he) a Lion, that had previously purloined a few sheep out of my kraal, came down and killed my riding horse about a hundred yards from the door of my cabin. Knowing that the Lion, when he does not carry off his prey, usually conceals himself in the vicinity, and is very apt to be dangerous by prowling about the place in search of more game, I resolved to have him destroyed or dislodged without delay. I therefore sent a messenger round the location, to invite all who were willing to assist in the enterprise, to repair to the place of rendezvous as speedily as possible. In an hour every man of the party (with the exception of two pluckless fellows who were kept at home by the women) appeared ready mounted and armed. We were also reinforced by about a dozen of the 'Bastuard' or Mulatto Hottentots, who resided at that time upon our territory as tenants or herdsmen,—an active and enterprising, though rather an unsteady, race of men.

Our friends the Tarkaboors, many of whom are excellent Lion hunters, were all too far distant to assist us, our nearest *neighbours* residing at least twenty miles from the location. We were therefore, on account of our own inexperience, obliged to make our Hottentots the leaders of the chase.

“The first point was to track the Lion to his covert. This was effected by a few of the Hottentots on foot. Commencing from the spot where the horse was killed, they followed the *spoor*¹ through grass, and gravel, and brushwood, with astonishing ease and dexterity, where an inexperienced eye could discern neither footprint nor mark of any kind,—until at length we fairly tracked him into a large *bosch*, or straggling thicket of brushwood and evergreens, about a mile distant.

“The next object was to drive him out of this retreat, in order to attack him in close phalanx, and with more safety and effect. The approved mode in such cases is to torment him with dogs till he abandons his covert, and stands at bay in the open plain. The whole band of hunters then march forward together, and fire deliberately one by one. If he does not speedily fall, but grows angry and turns upon his enemies, they must then stand close in a circle, and turn their horses rear outward; some holding them fast by the bridles, while the others kneel to take a steady aim at the Lion as he approaches, sometimes up to the very horses’ heels, couching every now and then as if to measure the distance and strength of his enemies. This is the moment to shoot him fairly in the forehead, or some other mortal part. If they continue to wound him

¹ The Hottentot name for a footmark.

ineffectually till he waxes furious and desperate, or if the horses, startled by his terrific roar, grow frantic with terror, and burst loose, the business becomes rather serious, and may end in mischief; especially if all the party are not men, of courage, coolness, and experience. The frontier Boors are, however, generally such excellent marksmen, and withal so cool and deliberate, that they seldom fail to shoot him dead as soon as they get within a fair distance.

“In the present instance, we did not manage matters quite so scientifically. The Bastuards, after recounting to us all these and other sage laws of Lion hunting, were themselves the first to depart from them. Finding that the few indifferent hounds which we had made little impression on the enemy, they divided themselves into two or three parties, and rode round the jungle, firing into the spot where the dogs were barking round him, but without effect. At length, after some hours spent in thus beating about the bush, the Scottish blood of some of my countrymen began to get impatient; and three of them announced their determination to march in and beard the Lion in his den, provided three of the Bastuards (who were superior marksmen) would support them and follow up their fire, should the enemy venture to give battle. Accordingly, in they went (in spite of the warnings of some more prudent men among us), to within fifteen or twenty paces of the spot where the animal lay concealed. He was couched among the roots of a large evergreen bush, with a small space of open ground on one side of it; and they fancied, on approaching, that they saw him distinctly lying glaring at them from beneath the foliage. Charging the Bastuards

to stand firm and level fair should *they* miss, the Scottish champions let fly together, and struck, not the Lion, as it afterwards proved, but a great block of red stone, beyond which he was actually lying. Whether any of the shot grazed him is uncertain, but, with no other warning than a furious growl, forth he bolted from the bush. The pusillanimous Bastards, in place of now pouring in their volley upon him, instantly turned and fled helter-skelter, leaving him to do his pleasure upon the defenceless Scots; who, with empty guns, were tumbling over each other, in their hurry to escape the clutch of the rampant savage. In a twinkling he was upon them, and with one stroke of his paw dashed the nearest to the ground. The scene was terrific! There stood the Lion with his paw upon his prostrate foe, looking round in conscious power and pride upon the bands of his assailants, and with a port the most noble and imposing that can be conceived. It was the most magnificent thing I ever witnessed. The danger of our friends, however, rendered it at the moment too terrible to enjoy either the grand or the ludicrous part of the picture. We expected every instant to see one or more of them torn in pieces; nor, though the rest of the party were standing within fifty paces with their guns cocked and levelled, durst we fire for their assistance. One was lying under the Lion's paw, and the others scrambling towards us in such a way as to intercept our aim at him. All this passed far more rapidly than I have described it. But luckily the Lion, after steadily surveying us for a few seconds, seemed willing to be quits with us on fair terms; and with a fortunate forbearance (for which he met but an ungrateful recompense), turned calmly away, and driving the

snarling dogs like rats from among his heels, bounded over the adjoining thicket like a cat over a footstool, clearing brakes and bushes twelve or fifteen feet high, as readily as if they had been tufts of grass, and, abandoning the jungle, retreated towards the mountains.

“After ascertaining the state of our rescued comrade (who fortunately had sustained no other injury than a slight scratch on the back, and a severe bruise in the ribs, from the force with which the animal had dashed him to the ground), we renewed the chase with Hottentots and hounds in full cry. In a short time we again came up with the enemy, and found him standing at bay under an old mimosa tree, by the side of a mountain stream which we had distinguished by the name of Douglas Water. The dogs were barking round, but afraid to approach him,



for he was now beginning to growl fiercely, and to brandish his tail in a manner that showed he was meditating mischief. The Hottentots, by taking a circuit between him and the mountain, crossed the stream, and took a position on the top of a precipice overlooking the spot where he stood. Another party

of us occupied a position on the other side of the glen; and placing the poor fellow thus between two fires, which confused his attention and prevented his retreat, we kept battering away at him till he fell, unable again to grapple with us, pierced with many wounds.

"He proved to be a full grown Lion of the yellow variety, about five or six years of age. He measured nearly twelve feet from the nose to the tip of the tail. His fore leg below the knee was so thick that I could not span it with both hands; and his neck, breast, and limbs appeared, when the skin was taken off, a complete congeries of sinews."

The African Lion, however, is often doomed to a more ignoble death. He is dull of hearing, difficult to be awaked, and when suddenly awaked, has no presence of mind. Of these circumstances the Bushmen of Africa avail themselves to accomplish his destruction. "The wolf and the tiger (says Dr. Philip) generally retire to the caverns and the ravines of the mountains, but the Lion is most usually found in the open plain, and in the neighbourhood of the flocks of antelopes, which invariably seek the open country, and which manifest a kind of instinctive aversion to places in which their powerful adversary may spring upon them suddenly and unexpectedly. It has been remarked of the Lion, by the Bushmen, that he generally kills and devours his prey in the morning at sunrise, or sunset. On this account, when they intend to kill Lions, they generally notice where the spring-bucks are grazing at the rising of the sun; and by observing, at the same time, if they appear frightened and run off, they conclude that they have been attacked by the

Lion. Marking accurately the spot where the alarm took place, about eleven o'clock in the day, when the sun is powerful, and the enemy they seek is supposed to be fast asleep, they carefully examine the ground, and finding him in a state of unguarded security, they lodge a poisoned arrow in his breast. The moment the Lion is thus struck, he springs from his lair, and bounds off as helpless as the stricken deer. The work is done; the arrow of death has pierced his heart, without even breaking the slumbers of the Lioness which may have been lying beside him; and the Bushman knows where, in the course of a few hours, or even in less time, he will find him dead, or in the agonies of death."

THE PUMA.

THE Puma, Cougar, or American Lion, is from four to five feet long, but more commonly of the former size, and has a tail of half that length, which has not, like that of the Lion, a terminating brush of hair; neither has the Puma a mane. Indeed, his name of Lion could only have been given to him by careless or unscientific observers, as his uniform sameness of colour is the sole point of resemblance which he has to the king of beasts. He has a small rounded head, a broad and rather obtuse muzzle, and a body which, in proportion, is slenderer and less elevated than that of his more dignified namesake. "The upper parts of his body," says Mr. Bennett, "are of a bright silvery fawn, the tawny hairs being terminated by whitish tips: beneath and on the inside of the limbs he is nearly white, and more completely so on the throat, chin, and upper lip.

The head has an irregular mixture of black and gray; the outside of the ears, especially at the base, the sides of the muzzle from which the whiskers take



their origin, and the extremity of the tail, are black." The fur of the Cubs has spots of a darker hue, which are visible only in certain lights, and disappear when the animal is full grown. Both the sexes are of the same colour.

The Puma was once spread over the whole wide extent of the new world, from Canada to Patagonia. The progress of civilization has, however, circumscribed his range, and has rooted him out in many places. Notwithstanding his size and strength, he is cowardly; and, like almost all cowards, he is sanguinary. If he find a flock of sheep unprotected, he will destroy the whole, merely that he may enjoy the luxury of sucking their blood. As he possesses much timidity and little swiftness, and frequents

the open plains, he generally falls a victim when the hunter pursues him with the unerring lasso.



In seizing its prey, the Puma crawls softly on his belly through the shrubs and bushes, conceals itself in ditches, or assumes a fawning appearance. As soon, however, as it can reach its victim, it leaps on its back by one bound, and soon rends it to pieces. Molina tells us that, in Chili, where the husbandmen tether their horses in the fields by pairs, the Puma kills and drags one away, and compels the other to follow by occasionally striking it with his paw. All animals are not thus easily vanquished. Asses defend themselves with their heels, and are often victorious; and cows form themselves into a circle round their calves, turn their horns towards the assailant, and not unfrequently destroy him. Even a woman or a child can put him to flight. When hunted with dogs, however, and cut off from his retreat to a rock or a tree, he places himself under the trunk of a large tree, and fights furiously.

The Puma is easily tamed, and in captivity becomes tractable, and even attached. It loves to be noticed and caressed, expresses its pleasure by purring, will follow its owner about like a dog, and has been known to suffer children to ride upon its back.

THE TIGER.

IN the class of carnivorous animals the lion is the foremost. Immediately after him follows the Tiger; which, while he possesses all the bad qualities of the former, seems to be a stranger to his good ones. To pride, to courage, to strength, the lion adds greatness, and sometimes, perhaps, clemency; while the Tiger, without provocation, is fierce; without necessity, is cruel. Thus it is throughout all the classes of Nature, in which the superiority of rank proceeds from the superiority of strength. The first class, sole masters of all, are less tyrannical than the inferior classes, which, denied so full an exertion of authority, abuse the powers intrusted to them.

More, therefore, than even the lion, the Tiger is an object of terror. He is the scourge of every country which he inhabits. Of the appearance of man, and of all his hostile weapons, he is fearless; wild animals as well as tame ones fall sacrifices before him; the young elephant and rhinoceros he sometimes attacks; and sometimes, with an increased audacity, he braves the lion himself.

The form of the body usually corresponds with the nature, the disposition of the animal. The Tiger, with a body too long, with limbs too short, with a head uncovered, and with eyes ghastly and haggard, has no characteristics but those of the basest and most insatiable cruelty. For instinct he has nothing but a uniform rage, a blind fury; so blind indeed, so undistinguished, that he frequently devours his own progeny, and, if she offers to defend them, tears in pieces the dam herself.

Happy is it for the rest of nature that this animal *is not common*, and that the species is chiefly con-

finest to the warmest provinces of the East. The Tiger is found in Malabar, in Siam, in Bengal, and in all the countries which are inhabited by the elephant and the rhinoceros.



When he has killed a large animal, such as a horse or a buffalo, he does not choose to devour it on the spot, fearing to be disturbed; and in order to feast at his ease, he carries off his prey to the forest, dragging it along with such ease that the swiftness of his motion seems scarcely retarded by the enormous load he sustains.

To give a still more complete idea of the strength of this terrible creature, we shall quote a passage from Father Tachard, who was an eyewitness of a combat of one Tiger against two, and even three, elephants at Siam. For this purpose, the king ordered a lofty palisade to be built of bamboo cane, about a hundred feet square; and in the midst of

this were three elephants appointed for combating the Tiger. Their heads and part of their trunks were covered with a kind of armour like a mask, which defended that part from the assaults of the fierce animal with which they were to engage. As soon, says this author, as we were arrived at the place, a Tiger was brought forth from his den, of a size much larger than we had ever seen before. He was not at first let loose, but held with cords, so that one of the elephants approaching gave him three or four blows with his trunk on the back, with such force that the Tiger was for some time stunned, and lay without motion, as if he had been dead. As soon, however, as he was let loose, and at full liberty, although the first blows had greatly abated his fury, he made at the elephant with a loud shriek, and aimed at seizing his trunk. But the elephant, wrinkling it up with great dexterity, received the Tiger on his great teeth, and tossed him up into the air. This so discouraged the furious animal, that he no more ventured to approach the elephant, but made several circuits round the palisade, often attempting to fly at the spectators. Shortly after, a second, and then a third elephant were sent against him, and they continued to strike him so terribly with their trunks, that he once more lay for dead; and they would certainly have killed him, had not a stop been put to the combat.

The Tiger, of which Father Gouie has communicated to the Academy of Sciences an anatomical description, composed by the Jesuit Fathers at China, seems to belong to the true species, as does also that which the Portuguese have distinguished by the name of *Royal Tiger*. Dellon expressly says, in his *Travels*, that there is no country of India in which *Tigers* so much abound as Malabar; that there the

species are numerous, but that the largest of all is that which the Portuguese call the *Royal Tiger*, which is very rare, and is as large as a horse.

The species of the Tiger has always been much rarer, and much less generally diffused, than that of the lion. Like the lioness, nevertheless, the Tigress produces four or five young ones at a birth. From her nature she is fierce at all times; but when surrounded with her infant progeny, and in the smallest danger of losing them, her rage, her fury, becomes extravagant. To oppose the daring invaders of her den, she braves every danger. On such occasions, she pursues the spoiler with an enmity the most inveterate; and he, contented to lose a part in order to save a part, is frequently obliged to drop one of her cubs. With this she immediately returns to her den, and again pursues him: he then drops another; and, by the time she has returned with that, he generally escapes with the remainder. Should her young be torn from her entirely, with hideous cries she expresses her agony, her despair, and follows the captor to the very town, or ship, in which he may have taken refuge, and dares him, as it were, to come forth.

The skins of these animals are much esteemed all over the East, particularly in China; the Mandarines cover their seats of justice in the public places with them, and convert them into coverings for cushions in winter. The Indians eat the flesh of the Tiger, and find it neither disagreeable nor unwholesome.

Such is the character which Buffon and many other naturalists have given to the Tiger, and it certainly is not calculated to prejudice us in his favour. More recent writers have, however, and apparently with justice, endeavoured to remove a part of the

odium which has been thrown upon him. Mr. Bennett, the scientific and acute author of the description of the animals in the Tower Menagerie and the Zoological Gardens, has laboured with much eloquence to raise the Tiger in the scale of estimation. "Closely allied to the lion (says he), whom he resembles in power, in external form, in internal structure, in zoological character, in his prowling habits, and in his sanguinary propensities, the Tiger is at once distinguished from that king of beasts, and from every other of their common genus, by the peculiar marking of his coat. On a ground which exhibits in different individuals various shades of yellow, he is elegantly striped by a series of transverse black bands or bars, which occupy the sides of his head, neck, and body, and are continued upon his tail in the form of rings, the last of the series uniformly occupying the extremity of that organ, and giving to it a black tip of greater or less extent. The under parts of his body and the inner sides of his legs are almost entirely white; he has no mane, and his whole frame, though less elevated than that of the lion, is of a slenderer and more graceful make. His head is also shorter, and more rounded.

"Almost in the same degree that the lion has been exalted and magnified, at the expense of his fellow brutes, has the Tiger been degraded and depressed below his natural level. While the one has been held up to admiration, as the type and standard of heroic perfection, the other has, with equal capriciousness and disregard of the close and intimate relationship subsisting between them, been looked upon by mankind in general with those feelings of unmingled horror and detestation which his

character for untameable ferocity and insatiable thirst of blood was so well calculated to inspire. It requires, however, but little consideration to teach us that the broad distinction, which has been drawn, cannot by possibility exist; and the recorded observations of naturalists and travellers, both at home and abroad, will be found amply sufficient to prove that the difference in their characters and habits, on which so much stress has been laid, is in reality as slight and unessential as that which exists in their corporeal structure.

“Unquestionably the Tiger has not the majesty of the lion; for he is destitute of the mane, in which that majesty chiefly resides. Neither has he the same calm and dignified air of imperturbable gravity which is at once so striking and so prepossessing in the aspect of the lion. But, on the other hand, it will readily be granted, that in the superior lightness of his frame, which allows his natural agility its free and unrestricted scope, and in the graceful ease and spirited activity of his motions, to say nothing of the beauty, the regularity, and the vividness of his colouring, he far excels his competitor, whose giant bulk and comparative heaviness of person, added to the dull uniformity of his colour, detract in no small degree from the impression produced by his noble and majestic bearing.

“In comparing the moral qualities of these two formidable animals, we shall also find that the shades of difference, for at most they are but shades, which distinguish them, are, like their external characteristics, pretty equally balanced in favour of each. In all the leading features of their character, the habits of both are essentially the same. The Tiger, equally with the lion, and in common indeed

with the whole of the group to which he belongs, reposes indolently in the security of his den, until the calls of appetite stimulate him to look abroad for food. He then chooses a convenient ambush, in which to lie concealed from observation, generally amid the underwood of the forest, but sometimes even on the branches of a tree, which he climbs with all the agility of a cat. In this secret covert he awaits with patient watchfulness the approach of his prey, upon which he darts forth with an irresistible bound, and bears it off in triumph to his den. Unlike the lion, however, if his first attack proves unsuccessful, and he misses his aim, he does not usually slink sullenly back into his retreat, but pursues his victim with a speed and activity which is seldom baffled even by the fleetest animals.

“ It is only when this close and covert mode of attack has failed of procuring him the necessary supply, that, urged by those inward cravings, which are the ruling impulse of all his actions, he prowls abroad under the veil of night, and ventures to approach the dwellings of man, of whom he does not appear to feel that instinctive awe which the lion has been known so frequently to evince. But even on such occasions, and although impelled by the strong stimulus of famine, he is in general far from unmindful of his own security; but creeps slowly along his silent path with all the stealthy caution so characteristic of the feline tribe. Occasionally, however, when the pangs of hunger have become intolerable, and can no longer be controlled even by the overpowering sway of instinct, he will boldly advance upon man himself in the open face of day, and brave every danger in the pursuit of that *object* which, to the exclusion of every other senti-

ment, appears under such circumstances wholly to engross his faculties.

"It is evident then that in the general outline of his habits, and even in most of the separate traits by which his character is marked, he differs but little from the lion. His courage, if brute force stimulated by sensual appetite can deserve that honourable name, is at least equal; and as for magnanimity and generosity, the idea of attributing such noble qualities to either is in itself so absurd, and is so fully refuted by every particular of their authentic history, that it would be perfectly ridiculous to attempt a comparison where no materials for comparison exist."—"Endowed with a degree of force, which the lion and the elephant alone can equal, he carries off a buffalo in his tremendous jaws, almost without relaxing from his usual speed. With a single stroke of his claws he rips open the body of the largest animals; and is said to suck their blood with insatiable avidity. Of the correctness of the latter statement, at least in its full extent, there is however strong reason to doubt. The Tiger does not, according to the most credible accounts, exhibit this propensity to drinking the blood of his victims in any greater degree than the rest of his carnivorous and bloodthirsty companions. In this, as in other instances, fear has drawn largely on credulity, and the simple and sufficiently disgusting fact has been amplified and exaggerated with all the refinements upon horror which the terrified imagination could suggest.

"In making these observations it is far from our intention to become the apologists of this ferocious beast: our object is simply to place him in the rank which he deserves to hold, on a level with those

animals with whom Nature has decreed that he should be associated no less in character than in form. In his wild and unrestricted state, he is unquestionably one of the most terrible of the living scourges, to whose fatal ravages the lower animals, and even man himself, are exposed. But in captivity, and especially if domesticated while young, his temper is equally pliant, his disposition equally docile, and his manners and character equally susceptible of amelioration, with those of any other animal of his class. All the stories that have been so frequently reiterated, until they have at length passed current without examination as accredited truths, of his intractable disposition and insensibility to the kind treatment of his keepers, towards whom it is alleged that he never exhibits the slightest feelings of gratitude, have been proved by repeated experience to be utterly false and groundless. He is tamed with as much facility, and as completely, as the lion; and soon becomes familiarized with those who feed him, whom he learns to distinguish from others, and by whom he is fond of being noticed and caressed. Like the cat, which he resembles so closely in all his actions, he arches his broad and powerful back beneath the hand that caresses him; he licks his fur and smooths himself with his paws; and purrs in the same mild and expressive manner when he is particularly pleased. He remains perfectly quiet and undisturbed, unless when hungry or irritated, and passes the greatest part of his time in listless repose. His roar is nearly similar to that of the lion, and, like his, is by no means to be regarded as a symptom of anger, which he announces by a short and shrill cry, approaching to a scream."

That the Tiger is not irreclaimably ferocious, and that he is capable not merely of a capricious and transient liking, but of an enduring attachment, the following story affords an extraordinary and convincing proof. "A beautiful young Tiger, brought in the Pitt East Indiaman from China, in the year 1790, was so far domesticated as to admit of every kind of familiarity from the people on board the ship. It seemed to be quite harmless, and was as playful as a kitten. It frequently slept with the sailors in their hammocks; and would suffer two or three of them to repose their heads on its back as upon a pillow, while it lay stretched out upon the deck. In return for this indulgence, it would, however, now and then steal their meat. Having one day stolen a piece of beef from the carpenter, he followed the animal, took the meat out of its mouth, and beat it severely for the theft: which punishment it suffered with all the patience of a dog. It would frequently run out on the bowsprit; climb about the ship like a cat; and perform many other tricks, with an agility that was truly astonishing. There was a dog on board, with which it would frequently play in the most diverting manner imaginable. This animal was taken on board the ship when it was only a month or six weeks old, and arrived in England before it had quite completed its first year. On its arrival it was presented to the king, and was afterwards deposited in the Tower of London. It even there continued to be perfectly good natured, and was in no instance known to be guilty of any savage or mischievous tricks.

"In the year 1801, one day after this Tiger had been fed, his keeper put into the den to him, a small, rough black terrier puppy, a female. The beast

suffered it to remain uninjured, and soon afterwards became so much attached to it, as to be restless and unhappy whenever the animal was taken away to be fed. On its return the Tiger invariably expressed the greatest symptoms of delight, always welcoming its arrival by gently licking over every part of its body. In one or two instances, the terrier was left in the den, by mistake, during the time the Tiger had his food. The dog sometimes ventured to eat with him, but the Tiger generally appeared dissatisfied with this liberty. After a residence with the Tiger of several months, the terrier was removed to make way for a little female Dutch mastiff. It was, however, thought advisable, before the terrier was taken away, to shut up the mastiff for three or four days among the straw of the Tiger's bed, to take off, if possible, any smell that might be offensive to the animal. The exchange was made soon after the animals had been fed; the Tiger seemed perfectly satisfied with his new companion, and immediately began to lick it, as he had before done the terrier. The dog seemed at first in considerable alarm with so formidable an inmate, but in the course of the day he became perfectly reconciled to his situation. This diminutive creature the Tiger would suffer to play with him, with the greatest good nature. I have myself, says Mr. Bingley, seen it bark at him, and bite him by the foot and mouth, without his expressing the least displeasure. When the dog in its frolic, seized his foot, he merely lifted it up out of its mouth, and seemed otherwise heedless of its attacks.

“ Strange dogs were several times put into the Tiger's den after his feeding, and he in no instance attempted to injure them. Mr. Cross, the present

keeper of Exeter 'Change, and who formerly had the care of the animals in the Tower, informed me that he could himself have ventured in safety into the den. The ship carpenter, who came over with the Tiger, came to the Tower to see him. The animal, though they had been separated more than two years, instantly recognised a former acquaintance, rubbed himself backward and forward against the grating of his den, and appeared highly delighted. Notwithstanding the urgent request that he would not expose himself to so much danger, the man begged to be let into the den, and with so much entreaty, that he was at last suffered to enter. The emotions of the animal seemed roused in the most grateful manner. He rubbed himself against him, licked his hands, fawned upon him like a cat, and in no respect attempted to injure him. The man remained there two or three hours; and he at last began to fancy there would be some difficulty in getting out alone. Such was the affection of the animal towards his former friend, and so close did he keep to his person, as to render his escape by no means so easy as he had expected. With some care, however, he got the Tiger beyond the partition of the two dens, and the keeper watching his opportunity, closed the slide, and separated them."



THE JAGUAR,

WHICH is sometimes called the American Tiger, is one of the most formidable animals of the New World. He is to be found in the southern division of America, from Paraguay to Guiana; but he does not appear to inhabit to the northward of the isthmus of Darien. Even in the south the race is gradually growing more rare, in consequence of the double temptation to destroy him, which is offered by the desire of getting rid of a beast so destructive to the flocks, and by the high price which is obtained for his skin.

More robust and more clumsy than the leopard, he is also much superior in size, as he often measures four or five feet from the nose to the root of the tail. His head is larger and rounder than the leopard's, his limbs are shorter, and his tail is of such a length as only to allow the tip to trail on the ground when the animal stands erect. Above the line of the eyes, the profile is also more prominent. "These differences of form (says Mr. Bennett) are accompanied by differences in colour and markings equally decisive. The general appearance is at the first glance the same in both; but the open roses of the leopard are scarcely more than half the size of those of the Jaguar, and they all enclose a space of one uniform colour, in which, unless in some rare and accidental instances, no central spots exist, while in the latter animal most of those which are arranged along the upper surface near the middle line of the back are distinguished by one or two small black spots enclosed within their circuit. The middle line itself is occupied in the leopard by open roses intermixed with a few black spots of small

size and roundish form ; that of the Jaguar, on the contrary, is marked by one or two regular longitudinal lines of broad elongated deep black patches, sometimes extending several inches in length, and occasionally forming an almost continuous band from between the shoulders to the tail. The black rings towards the tip of the latter are also more completely circular than in the leopard."



The Jaguar is a solitary animal, residing in forests, especially near large rivers. He is an excellent swimmer. D'Azara tells us, partly from personal observation, that, after a Jaguar had destroyed a horse, he dragged the body sixty paces, and then swam with it over a broad and deep river. He is equally expert at climbing. "I have seen (says M. Sonini) in the forests of Guiana, the prints left by the claws of the Jaguar on the smooth bark of a tree from forty to fifty feet in height, measuring

about a foot and a half in circumference, and clothed with branches near its summit alone. It was easy to follow with the eye the efforts which the animal had made to reach the branches : although his talons had been thrust deeply into the body of the tree, he had met with several slips, but he had always recovered his ground, and, attracted no doubt by some favourite object of prey, had at length succeeded in gaining the very top."

The Jaguar lies in ambush for his prey, on which he pounces suddenly, and his great muscular strength enables him instantly to bear it to the ground. Man he does not often attack, and never but by stealth. While M. Sonini was travelling in Guiana, his party was closely dogged for three nights by one of these animals, which eluded all their attempts to shoot it, and would, doubtless, have carried off any individual who might have unguardedly exposed himself.

Ferocious as he is in his wild state, the Jaguar, when captive, becomes tame and even mild, and is particularly fond of licking the hands of those with whom he is familiar.

The taking of the Jaguar forms a portion of the warlike features distinguishing the Indians of South America, particularly the Laneros, or men of the plains. One inducement a Laneros has in pursuing the Jaguar is the honour of the feat—for the value of its skin and the little depredations it commits on the flocks, would never, I apprehend (says a late traveller in South America) induce him to risk a single combat with such fierce animals ; but there is a stronger stimulus, viz. that killing seven Jaguars, or six tigers, will give him the title of *guapo*, or warrior, and the privilege of choosing the fattest virgin for his companion in the tribe ; for with them the

lady who is most *en bon point* is most beautiful. This alone is a sufficient inducement; and they endeavour to complete their task as early as the age of seventeen. At the approach of the breeding season, they watch with great assiduity the battles that take place between the male and the female, as this is a sure indication of her littering, not wishing to have the male know where she deposits the Cubs, as some naturalists assert that he eats them; others that he hugs them to death. However this be, she never suffers him to approach the jungle, if I may be allowed to call it so, until they are able to run after her. During this period he awaits her with the most tender solicitude, and even brings her a portion of his prey. He is seen hovering instinctively about the place where she is couched at noon-tide. When the Laneros perceives this, he envelops himself in a Jaguar's skin, and approaches him, taking good care to have the wind in his favour, as the Jaguar's keen scent would soon discover the imposition. Even this sagacity and instinct they think they have got over, by burning plantain leaves so as to take away for hours any scent which the human body has; though this is probably a mere fancy. As soon as the Laneros perceives the Jaguar, he runs from him on all fours, and endeavours to mimic the whining cry of the beast, which by some is said to be like a cat, or like hogs crouching in a sty; the latter is what I would compare them to, as I have seen them mustering by night previous to hunting. As soon as the male perceives him, he bounds towards him; when the Laneros dexterously throws the noose (the lasso) over him, and soon strangles him. Sometimes he wounds him with his lance, and then a sanguinary conflict takes place.



As the Laneros has his left arm well bound round with tanned horse skin, impervious to the Jaguar's tusks, he presents his left hand; as soon as the Jaguar seizes it, he is stabbed with a long knife, which seldom misses the heart, as the principal excellence of a *guapo* is killing the beast with as few stabs as possible. As soon as he dispatches the male, the female becomes an easy prey. Sometimes the Laneros, when their numbers are complete, will, to show their dexterity and address, decoy the Jaguar into a defile, when the man uncovers and shows himself; the Jaguar endeavours to retreat, but is prevented by other Indians, who scare him with firebrands, for they can produce fire by rubbing two pieces of wood together, as quick as if with tinder. In this manner they worry him with dogs, while they keep him at bay until the women arrive to witness their cruelty. As the Jaguar gets frantic he endeavours to bite at every thing near him; as often as the creature opens his mouth he is sure to have a burning torch rammed into his throat, until madness exhausts him, and he is no longer able to close his jaws; then the women and boys descend from their high positions, chop off his paws, hammer

out his teeth, and often skin him alive, while the boys are smeared with the blood, in order to make them good warriors, and the mothers take delight in seeing the animosity they have to the creature, even when no longer able to do any injury. As to the female Jaguar, they have only to come near her couching place to provoke a quarrel, as she will often attack them before they are within two hundred yards of it: in her they sometimes find a more formidable enemy than in the male, although much inferior in point of size and strength, but more subtle and crafty: their bite is difficult to heal, and the Laneros think a wound from a Jaguar a great disgrace; so much so that a young aspirant for the title of *guapo*, who had the misfortune of being wounded in a rencontre, was so much ashamed of acknowledging it, that he suffered a mortification sooner than expose the wound, although he was well aware the women possessed a salve that would cure him.

THE LEOPARD.

THIS formidable and sanguinary animal is found nearly throughout the whole of Africa, and in eastern and southern Asia. He usually measures about three feet in length, exclusive of the tail, but sometimes reaches four feet. His appearance indicates his natural disposition. He has a restless eye and a sinister countenance, and all his motions are hasty and abrupt. In rapidity, agility, and precision of motion he is unrivalled by any other animal; an advantage which he owes to the strength of his muscles, the suppleness of his joints, the extreme pliability of his spine, the greater lateral compres-

sion of his body, and the slender proportions of his limbs. His prey, on which he darts from his hiding place, and even pursues up the trees, consists of antelopes, monkeys, and the smaller quadrupeds. Usually, he shuns man, but, when closely pressed, he turns upon the hunter, and hunger will drive him to attack, though by stealth, the human race.



“ Even among the cats (says Mr. Bennett) he is remarkable for extreme sleekness and excessive agility. He is well distinguished from all the other species by the vividness of his colouring and the beauty of his markings. These consist of numerous rows of large rose-like spots passing along his sides, each formed of the confluence of several smaller black spots into an irregular circle enclosing a fawn coloured centre, upon a general ground colour of light yellow. On his head, neck, and limbs, and the central line of his back, the spots

run into one another so completely as to form full patches of smaller size than the open roses, and without central yellow. The under parts of his body, as is usual in most quadrupeds, become gradually of a lighter hue, the throat, chest, and abdomen, being of a pure and delicate white. His tail is equal in length to the entire body excluding the head; and is marked by a continuation of the open roses of the sides, which become towards its extremity separated in such a manner as to surround the upper surface with partial rings of black alternating with white. The whiskers are long and white, and implanted in a series of black lines which traverse his lips."

In captivity the Leopard has been sometimes brought to a considerable degree of tameness. It is not, however, very safe to trust them; for their original nature is now and then unexpectedly displayed. The female Leopard in the Tower is extremely tame, suffers herself to be patted by the keeper, and licks his hands. She has a curious propensity to destroy such articles of dress as she can seize; and has torn to pieces hundreds of parasols, umbrellas, muffs, and hats, which the owners unwarily suffered to come within reach of her sudden and agile spring.



THE PANTHER



RESEMBLES the tiger in its habits, and the leopard in its skin. Like the tiger it has an insatiable thirst of blood, and an untameable ferocity; like the leopard its skin is spotted, but is less beautiful than the skin of that animal. It seems, in truth, only a large variety of the leopard. The Panther is usually more than six feet long, independent of the tail, which is about three feet in length. In Africa, one was killed by Major Denham, which was more than eight feet in length. His hair is short, sleek, and mossy, and his colour is, in general, of a bright tawny yellow, elegantly marked with black spots, disposed in circles of four or five each, with a single spot in the centre: his chest and belly are white. He has short and pointed ears, fierce and restless eyes, a strong harsh cry, and a savage aspect. So rapid are his movements that few animals can escape him, and such is his agility that he climbs trees in pursuit of his prey, and is sure of seizing his victim. The flesh of animals is said to be his favourite food, but when pressed by hunger he makes his attacks without discrimination.

In the time of the Romans, Panthers appear to

have been very numerous, and at present the species is said to extend from Barbary to the remotest parts of Guinea.

It must be observed, that it is very doubtful whether the Panther has ever yet been represented in any drawing. Temminck is of opinion that all the nominal representations of Panthers are really those of leopards.

The following narrative of an encounter with a Panther, which is copied from the Library of Entertaining Knowledge, will abundantly prove the formidable nature of the Panther, even when the animal is not of its largest size.

“ I was at Jaffna, at the northern extremity of the island of Ceylon, in the beginning of the year 1819 (says the writer), when, one morning, my servant called me an hour or two before my usual time, with “ Master, master! people sent for master’s dogs—tiger in the town!” Now, my dogs chanced to be some very degenerate specimens of a fine species, called the Poligar dog, which I should designate as a sort of wiry-haired greyhound, without scent. I kept them to hunt jackals; but tigers are very different things: by the way, there are no real tigers in Ceylon; but leopards and Panthers are always called so, and by ourselves as well as by the natives. This turned out to be a Panther. My gun chanced not to be put together; and while my servants were doing it, the collector and two medical men, who had recently arrived, in consequence of the cholera morbus having just then reached Ceylon from the continent, came to my door; the former armed with a fowling-piece, and the two latter with remarkably blunt hog-spears.

They insisted upon setting off without waiting for my gun, a proceeding not much to my taste. The tiger (I must continue to call him so) had taken refuge in a hut, the roof of which, as those of Ceylon huts in general, spread to the ground like an umbrella; the only aperture into it was a small door, about four feet high. The collector wanted to get the tiger out at once. I begged to wait for my gun; but no—the fowling-piece (loaded with ball, of course,) and the two-hog-spears were quite enough. I got a hedge-stake, and awaited my fate, from very shame. At this moment, to my great delight, there arrived from the fort an English officer, two artillery-men, and a Malay captain; and a pretty figure we should have cut without them, as the event will show. I was now quite ready to attack, and my gun came a minute afterwards. The whole scene which follows took place within an enclosure, about twenty feet square, formed, on three sides, by a strong fence of palmyra leaves, and on the fourth by the hut. At the door of this the two artillery-men planted themselves; and the Malay captain got at the top, to frighten the tiger out, by worrying it—an easy operation, as the huts there are covered with cocoa-nut leaves. One of the artillery-men wanted to go in to the tiger, but we would not suffer it. At last the beast sprang; this man received him on his bayonet, which he thrust apparently down his throat, firing his piece at the same moment. The bayonet broke off short, leaving less than three inches on the musket; the rest remained in the animal, but was invisible to us: the shot probably went through his cheek, for it certainly did not seriously injure him, as he instantly rose upon his legs,

with a loud roar, and placed his paws upon the soldier's breast. At this moment, the animal appeared to me about to reach the centre of the man's face; but I had scarcely time to observe this, when the tiger, stooping his head, seized the soldier's arm in his mouth, turned him half round staggering, threw him over on his back, and fell upon him. Our dread now was, that if we fired upon the tiger, we might kill the man: for the moment there was a pause, when his comrade attacked the beast exactly in the same manner as the gallant fellow himself had done. He struck his bayonet into his head; the tiger rose at him—he fired; and this time the ball took effect, and in the head. The animal staggered backwards, and we all poured in our fire. He still kicked and writhed; when the gentlemen with the hog-spears advanced, and fixed him, while some natives finished him, by beating him on the head with hedge-stakes. The brave artillery-man was, after all, but slightly hurt: he claimed the skin, which was very cheerfully given to him. There was, however, a cry among the natives that the head should be cut off: it was; and, in so doing, *the knife came directly across the bayonet*. The animal measured scarcely less than four feet from the root of the tail to the muzzle. There was no tradition of a tiger having been in Jaffna before; indeed this one must have either come a distance of almost twenty miles, or have swam across an arm of the sea nearly two in breadth; for Jaffna stands on a peninsula on which there is no jungle of any magnitude."

THE CHETAH.



THIS animal, which is called the Youze in Persia, the Chetah in India, and to which Pennant gave the name of the Hunting Leopard, is a native of Africa and Southern Asia. With the distinguishing characteristics of the cat species, it combines somewhat of the dog. Unlike those of the cat, its claws are only slightly retractile. In size he is intermediate between the leopard and the hound, but has a slenderer body, more elevation in his legs, and a less flat fore part of the head than the former, while he wants the graceful and lengthened form of head and body by which the latter is distinguished. His fur is not sleek, but has a peculiar crispness. Above, the ground colour is a bright yellowish fawn; beneath, it is a pure white; the back and sides are covered with innumerable spots, close to each other,

from half an inch to an inch in diameter. The spots are larger, but less closely set, on the back than on the head, sides, and limbs. On the chest and under part of the body they are wanting. The tail is marked with interrupted rings of them, till near the extremity, which is surrounded by three or four complete rings. Along the back of the neck and the anterior part of the spine, is a mane, consisting of longer, crisper, and more upright hairs.

In the east he is used in hunting by the higher classes. Hiding himself as much as possible, he approaches the object, and when he has come sufficiently near to the object, he makes five or six enormous bounds, with incredible velocity, darts on his victim, and instantly strangles him. In his domesticated state, the Chetah is one of the most playful and fond of animals. He has not the slightest appearance of the caprice and mischievousness of the cat.

THE LYNX

Is an animal more commonly found in cold than in temperate climates; and is at least very rare in hot ones. Bory St. Vincent, however, assures us that he shot several in Spain. It is abundant in the northern parts of Europe, Asia, and America. The Lynx of the Greeks and Romans was not the animal which now bears that name, but the caracal.

The Lynx, of which the ancients have said, that the sight was so sharp as to penetrate opaque bodies, and of which the urine was made to possess the marvellous property of hardening into a solid substance, a precious stone called *lapis lynceus*, is an animal which never existed, any more than all the

properties attributed to it, but in fable. To the present Lynx, or to the caracal, this imaginary one has no affinity, but in name. We must not, therefore, as the generality of naturalists have hitherto done, attribute to the former, which is a real being, the properties of this imaginary one, the existence of which Pliny himself does not seem disposed to believe, since he speaks of it only as an extraordinary beast, and classes it with the sphynx, the pegasus, and other prodigies, or monsters, the produce of *Æthiopia*.



Our Lynx possesses not the wonderful quality of seeing through walls; but it has bright eyes, a mild aspect, and, upon the whole, an agreeable and lively appearance. Such, however, is its native ferocity, that it is said to be incapable of being subdued. Its urine produces not precious stones, but like the cat, an animal which it nearly resembles, and of which it retains the manners, and even the cleanliness, it covers it over with earth.

The most beautiful skins of the Lynx are brought from Siberia, as belonging to the *lupus-cervarius*; and from Canada, as belonging to the *felis-cervarius*; because being, like all other animals of the New Continent, smaller than those of the Old World, in

Europe they are compared to a wolf in size, and in Canada to a wild cat.

The Lynx has short legs, and is generally about the size of the fox. The ears are erect, and are tipped with a long pencil of black hair. The fur, which is long and thick, is of a pale gray colour, with a reddish tinge, and obscurely marked with small dusky spots on the upper parts of the body. The under parts are white. The skin of the male is more beautifully marked than that of the female. It does not walk or run like the wolf in a progressive motion, but leaps and bounds like the cat. It gains its sole subsistence by devouring other animals; and these it will follow to the very tops of trees. Neither can the wild cat, the martin, the ermine, nor the squirrel, escape its pursuit. It also seizes birds, lies in wait for the stag, the roebuck, and the hare, and with one bound often seizes them by the throat. When in possession of its prey, it first sucks the blood of the animal, and then lays open his head, in order to devour the brains. This done, it generally abandons the victim of its fury, goes in search of fresh prey, and is seldom known to return to the former; a circumstance which has given rise to the vulgar remark, that of all animals the Lynx has the shortest memory. The skin of this animal changes its colour according to the season and the climate. In winter it is in every respect better than it is in summer; and its flesh, like the flesh of all beasts of prey, is not proper to eat.

THE CARACAL, OR SIYA-GUSH.



THOUGH the Caracal resembles the lynx in size, in the formation of the body, and the aspect of the head ; and, though like that animal, it seems to have the peculiar, and almost singular characteristic of a stripe of black hair at the extremity of the ears ; I do not scruple, nevertheless, from their disagreement in other respects, to treat of them as animals of different species.

The Caracal is not spotted like the lynx ; it has hair rougher and shorter, its tail is larger, and of a uniform colour ; its snout is more elongated ; in appearance it is less mild, and in disposition it is fiercer. The lynx is an inhabitant of the cold, or at most of the temperate regions ; the Caracal is only found in the hot countries ; and it is as much from their difference in disposition and climate that I

have judged them to be of two different species, as from the inspection and comparison of the animals themselves.

The Caracal, which is the lynx of the ancients, is common in Barbary, in Arabia, and in the southern half of Asia, and in all those countries which are inhabited by the lion, the panther, and the leopard ; like them it depends on prey for its subsistence ; but, unlike them, from its inferior size, its inferior strength, to procure that prey it has much difficulty. Hardly, indeed, has it aught to subsist on but what the more potent carnivorous animals are disposed to leave for it. It follows the lion, who, when the immediate cravings of his appetite are gratified, is of a disposition altogether unhostile. From the refuse of what this noble animal has devoured, the Caracal frequently enjoys a comfortable meal. When, however, he is left to his own powers for support, he attacks hares, rabbits, and birds ; of the latter he is exceedingly fond, and will pursue them with astonishing swiftness to the tops of the tallest trees.



The Caracal is somewhat larger than a fox, and much fiercer and stronger. It has been known to attack, tear in pieces, and destroy in a few minutes, a large dog, who, fighting for his life, defended himself with all his strength. It is very difficult to

tame this animal ; yet if taken when very young, and afterwards reared with care, some affirm that it may be trained to the chase, to which it is by nature inclined, and in which it is sure to succeed, provided it is not let loose but against such animals as are its inferiors, and unable to resist it. Should it be a service of danger, with every expression of reluctance it declines it. It is stated that in India they make use of this animal to take hares, rabbits, and even large birds, all of which it surprises, and seizes with singular address and facility. It is, however, doubtful whether the Caracal is ever thus employed. In captivity it is extremely sulky, and swears fiercely whenever it is noticed.

THE STRIPED HYÆNA.

So striking, and even so singular are the characteristics of the Hyæna, that it is hardly possible to be deceived by them. It is, perhaps, the only quadruped which has but four toes to either the fore or hind feet ; like the badger it has an aperture under the tail, which does not penetrate into the interior parts of the body ; its ears are long, straight, and nearly bare ; its head is more square and shorter than that of the wolf ; its legs, the hind ones especially, are longer ; its eyes are placed like those of the dog ; the hair and mane are of a brownish gray, with transverse dark brown or blackish bands on the body, which stripes become oblique on the flanks and the legs. The coat is of two sorts ; fur or wool, in small quantity, and long, stiff, and silky hair. Its height varies from nineteen to twenty-five inches, and its usual length, from the muzzle to the tail, is three feet three inches.

The Striped Hyæna is a native of Barbary, Egypt,

Abyssinia, Nubia, Syria, Persia, and the East Indies. It generally resides in the caverns of mountains, in the clefts of rocks, or in dens, which it has formed for itself under the earth. It lives by depredation,



like the wolf; but it is a stronger animal, and seemingly more daring. It sometimes attacks man, carries off cattle, follows the flocks, breaks open the sheep-cotes by night, and ravages with a voracity insatiable. By night also its eyes shine; and it is maintained that it sees better than in the day. If we may credit all the naturalists who have treated of this animal, its cry is very peculiar, beginning with something like the moaning of a human being, and ending in a sound which resembles the sobs or reachings of a man in a violent fit of vomiting; but, according to Kämpfer, who was an earwitness of the fact, it sounds like the lowing of a calf. When at a loss for other prey, it scrapes up the earth with

its feet, and devours the carcasses both of animals and men, which, in the countries that it inhabits, are interred promiscuously in the fields.

Of few animals, have so many absurd stories been told as of that we are now treating of. The ancients have gravely written, that the Hyæna could become male and female alternately. It plainly appears, however, that the circumstance which gave rise to this fable, is, the opening in the form of a cleft, which both the male and the female have independently of the parts destined for the purposes of generation. It has, moreover been affirmed, that the neck consisted of but one jointless bone, which bone was of great efficacy in magical invocations, that this creature could imitate the human voice, that it remembered the names of the shepherds, called to them, charmed them, rendered them motionless; that, at the same time, it gave chase to the shepherdesses; caused them to forget their flocks, to be distracted with love, &c. All these things might surely happen without the intervention of an Hyæna; and I conclude this article, in order to avoid the reproach which is due to Pliny, of seeming to take a pleasure in compiling and publishing fables.



THE SPOTTED HYÆNA.



THIS animal is a native of Southern Africa, and abounds in the neighbourhood of the Cape of Good Hope, where it is called the Tiger Wolf. It is somewhat inferior in size to the Striped Hyæna, but, in its wild state, has the same manners and propensities. Its short muzzle is less abruptly truncated, and its ears, short and broad in form, are of a nearly quadrilateral figure. The general colour of the hide is a dirty yellow, or yellowish brown, and the whole body is covered with spots of a blackish brown, excepting the under part of the belly and of the breast, the inner surface of the limbs and the head. The muzzle is black, and the tail covered with long bushy hair of a blackish brown. Like the striped Hyæna, the spotted species has jaws of enormous strength, with which it easily breaks to pieces the hardest bones.

It is a common but erroneous idea, that the Hyæna is wholly savage and untameable. Both species have been tamed, and instances are recorded of individuals having manifested all the attachment of a dog. The Striped Hyæna has recently been

domesticated in the Cape territory, and is considered one of the best hunters after game, and as faithful and diligent as any of the common domestic dogs. The truth is, that the Hyæna has a very natural aversion to close confinement, and when exhibited, as he generally is, in a narrow cage, he is miserable, and consequently irritable. In a man, similarly situated, the expression of anger would be praised as a generous hatred of slavery.

The Hyæna was undoubtedly once an inhabitant not only of the European continent, but also of the British islands. His bones have been found in various parts of England and Wales, and particularly in a cave at Kirby Moorside, in Yorkshire. That cave, which was evidently the abode of numerous Hyænas, likewise contains bones of the elephant, the rhinoceros, the hippopotamus, the horse, the ox, the bear, various kinds of deer, the fox, the water rat, and several birds.

THE CIVET.

THE generality of naturalists have been of opinion, that there is only one species of animals that furnish the perfume known by the name of *civet*. Two animals that furnish it, however, are easily distinguishable.

To the first of these animals I have appropriated its original name of *Civet*; and to the second, for the sake of distinction, I have given that of *zibet*.

The latter animal differs from the Civet, in having a body longer and less thick, a snout flatter, more slender, and somewhat concave at the upper part; its hair is much shorter and softer; it has no mane, no black under the eyes, or upon the cheeks. All these characteristics are peculiar to, and very remark-

able in, the Civet. Some travellers had already suspected that there were two species of Civets; but no person had distinguished them with sufficient accuracy to describe them.



These animals have been called *Musk Cats*, or *Civet Cats*; yet they are not of the cat species; which, however, they resemble in some zoological points, and in their activity, and their predatory, sanguinary, and nocturnal habits. They somewhat resemble the fox, especially in the head. Their coat is diversified with stripes and spots; a circumstance which has occasioned them to be mistaken for small panthers, by persons who had only seen them at a distance. In every other respect, however, they differ from the panther.

The Civet is from two to three feet in length, stands from ten to twelve inches high, and has a tail half the length of its body. The hair is long, and the ground colour of it is a brownish gray, interspersed with numerous transverse interrupted bands

or irregular spots of black. Along the centre of the back, from between the shoulders to the end of the tail, is a kind of mane, which can be erected or depressed as the animal pleases, and which is formed of black hairs, longer than those of the body. The sides of the neck and the upper lip are nearly white. The legs and the greater part of the tail are perfectly black; there is a large black patch round each eye, which passes thence to the corner of the mouth; and two or three bands of the same colour stretch obliquely from the base of the ears towards the shoulder and neck, the latter of which is marked with a black patch.

The perfume of the Civet is very strong, and that of the zibet is so to an excess. This humour is found in the opening which each of these animals has in the neighbourhood of the genitals; and though the odour is so strong, it is yet agreeable, even when it issues from the body of the animal. The perfume of the Civet we must not confound with musk, which is a sanguineous humour obtained from an animal altogether different from either the Civet or the zibet.

The Civets, though natives of the hottest climates of Africa and of Asia, are yet capable of living in temperate, and even in cold countries, provided they are carefully defended from the injuries of the air, and provided with delicate and esculent food. In Holland, where no small emolument is derived from their perfume, they are frequently reared. The perfume of Amsterdam is esteemed preferable to that which is brought from the Levant, or the Indies, which is generally less genuine. That which is imported from Guinea would be the best of any, were it not that the Negroes, as well as the Indians and the people of the Levant, adulterate it with

mixtures of laudanum, storax, and other balsamic and odorous drugs.

Those who breed these animals for the sake of their perfume, put them into a long and narrow sort of box, in which they cannot turn. This box the person who is employed to collect the perfume opens behind, for this purpose, twice or thrice a week; and, dragging the animal which is confined in it backward by the tail, he keeps it in this position by a bar before. This done, he takes out the civet with a small spoon, carefully scraping with it, all the while, the interior coats of the pouch. The perfume thus obtained is put into a vessel; and every care is taken to keep it closely shut.

The quantity which a single animal will afford, depends greatly upon its appetite, and the quality of its nourishment. It yields more in proportion as it is more delicately and abundantly fed. Raw flesh hashed small, eggs, rice, small animals, birds, young fowls, and particularly fish, are the food in which the Civet most delights.

As to the rest, the Civet is a wild, fierce animal, and, though sometimes tamed, is yet never thoroughly familiar. Its teeth are strong and sharp; but its claws are feeble and blunt. It is light and active, and lives by prey, pursuing birds, and other small animals, which it is able to overcome. It generally attacks at night, and by surprise. They are sometimes seen stealing into yards and outhouses, like the fox, in order to carry off poultry. Their eyes shine in the night; and it is very probable that they see better by night than by day. When they fail of animal food, they are found to subsist upon roots and fruits. They very seldom drink; nor do they ever inhabit humid ground; but in burning sands, and in arid mountains, they cheerfully remain.

THE JAVANESE CIVET



DIFFERS considerably from the common Civet. The body, narrow, compressed, and higher behind than before, is from fifteen to eighteen inches long. The back is strongly arched. The muzzle is narrow and tapering; the ears short and rounded; the profile forms a perfectly straight line; the tail, tapering gradually to the tip, is as long as the body, and is marked with eight or nine broad black rings, which alternate with as many of a grayish hue. A much lighter gray than that of the Civet composes the ground colour; there is a broad longitudinal dorsal line of black, and on each side two or three narrower black lines, consisting of confluent spots. Over the rest of the body these spots are thickly but rather irregularly scattered, so as to constitute a series of *flexuous dotted lines*. The side of the neck above is occupied by a deep longitudinal black line, and,

below, there is a second, which is more obliquely placed. The head is grayish, and has no spots; and the legs are externally black.



The specimens which are in the Tower deposit large quantities of civet. They are fed on a mixture of animal and vegetable food, and are extremely spiteful and savage.

THE GENET



Is an animal smaller than the civets. It has a long body, short legs, a sharp snout, and a slender head. Its fur, which is exceedingly smooth and soft, is of an ash colour, glossy, and marked with black stripes, which are separate upon the sides, but which unite upon the back. It has also upon the neck a kind of mane, or longish hair, which forms a black streak from the head to the tail, which last is as long as

the body, and is marked with seven or eight rings; from the insertion to the tip, which are alternately black and white.

The Genet has under the tail, and in the very same place with the civets, an opening, or pouch, in which is separated a kind of perfume resembling civet, but less strong, and apt sooner to evaporate. It is an animal somewhat larger than the martin, which it strongly resembles, not only in the form of the body, but also in disposition and habit, and from which it seems chiefly to differ in being more easily tamed. It is a native of Spain, Africa, and the south of Asia.

THE PARADOXURUS



APPROACHES closely to the genets and civets in its general form and habits; so closely, indeed, that *Buffon* has classed it with the former, under the

name of Genette of France. In its teeth, toes, and nails, and the retractile power of the latter, it is nearly similar to them; but it is a plantigrade animal, has no secretory pouch, and the tail, which is as long as the body, and is flattened above and below, has one great singularity; namely, that the animal is able to roll it up into a spire, commencing from above downwards, even to the very base.

The *Paradoxurus Typus*, the subject of the cut, is a native of the East Indies and the Oriental Archipelago. Marsden calls it the *Musang*, and the Javanese give it the name of *Luwach*. Its length, including the tail, is about three feet. Grayish black, with a tinge of yellow, is its general colour. It has a broad dorsal black line, and two or three narrower indistinct black lines on the sides. The under jaws, the legs, and the major part of the tail are also black. Under and above each eye is a white spot.

Little is known of its habits in a state of liberty. As a captive it is sullen, irascible, and unsusceptible of affection.



THE PREHENSILE PARADOXURUS.

THIS animal, a native of Bengal, has its fur of a greenish yellow. The dorsal line, the end of the tail, and the paws are black. Near the back there are two lines of lengthened black spots, and on each side many small orbicular spots.

THE ONDATRA.



THE ONDATRA, and the DESMAN, are two animals which must not be confounded, though they have both been denominated *Musk Rats*, and though they have a few common characteristics.

The ONDATRA, or MUSK RAT of Canada, differs from the desman, in having its toes all separated from each other, in having eyes very conspicuous, and a snout very short; whereas of the DESMAN, or MUSK RAT of Muscovy, the toes of the hind feet are united by a membrane. The tail of both is flat; and not only in this circumstance, but in a number of essential characteristics, they differ from the pilori, or musk rat of the Antilles.

The Ondatra is of the size of a small rabbit, and of the form of a rat. Its head is short, and similar to that of the water rat; its hair is soft and glossy, with a very thick down underneath, nearly like that

of the beaver; its tail is long, and though of a different form, being flattened laterally, it is covered nevertheless with little scales, in the same manner as those of other rats.

Its ears are very short, but not uncovered, like those of the domestic rat; being furnished with hair, both outwardly and inwardly.

The striking singularities which have been remarked in the Ondatra, are, first, the force and great expansion of the muscles of the skin, which enables the animal, by contracting its skin, to compress its body, and reduce it to a smaller size; secondly, the suppleness of the false ribs, which permits a contraction of the body so considerable, that the musk rat is known to obtain an easy entrance into holes too narrow for the admission of animals much smaller than itself; thirdly, the manner in which the female voids her urine, the urethra not terminating as in other quadrupeds, but at a hairy eminence situated over the os pubis; fourthly, the testes, which, as in other rats, are situated on each side of the anus, become prodigiously large while the ardour lasts for continuing the species; and lastly, we learn, that the vessels which contain the musk or perfume of this animal, under the form of a milky humour, and which adjoin to the parts of generation, undergo the same changes; that, during the rutting season, they enlarge and swell to a very great degree; that then the perfume is exceedingly strong, and sensibly to be distinguished at a considerable distance; but that, at the expiration of this period, they become wrinkled, they decay, and are at length totally effaced. The change in the bags which contain the perfume is effected more quickly, as well as more completely, than that of the parts of generation. They are *common to both sexes*, and contain a very

copious milky substance, while the animals are actually in heat.

As the *Ondatra* belongs to the same country as the beaver; as, like that animal, it is fond of water; and as, though smaller, it has yet nearly the same figure, the same colour, the same kind of hair, they have been often compared with each other.

In disposition and instinct, also, these animals bear a considerable resemblance to each other. Like the beavers, the *Ondatras* live in society during the winter. They form little dwellings, about two feet and a half, and sometimes more, in diameter; and in these there is often found an association of several families. To such habitations they do not resort in order to sleep for five or six months, like the marmots; their only object is, to obtain from them a shelter from the inclemency of the weather. They are of a round form, and are covered with a kind of dome about a foot thick. The materials of which they are composed are rushes and certain herbs interwoven together, and consolidated with some clay, which they previously prepare for that purpose with their feet.

These animals breed once a year, and generally produce five or six at a time. So strong are their fore teeth, and so excellently calculated for gnawing, that when one of them is shut up in a box, it presently makes a hole to escape through, let the wood be ever so hard.

These animals are little inclined to ferocity, and, when taken young, are easily tamed. In the very early period of life they are also, which might not be expected, exceedingly handsome; for then the long and almost uncovered tail, which renders their figure very disagreeable afterwards, is very short. They play with all the innocence and sprightliness

of young cats; they never bite, and with ease might be reared, were it not for the circumstance of their noxious smell.

THE DESMAN.

THIS animal, a native of Lapland and Russia, is about the size of a common rat: it has a long and slender nose; no external ears; and very small eyes: the tail is compressed sideways, and its hind feet are webbed: it is of a dusky colour; the belly is a light ash. It frequents the banks of rivers, where it feeds on small fishes; and, in its turn, is often devoured by pikes and other fish, to which it communicates so powerful a musky flavour as renders them exceedingly unpleasant to the taste. A kind of musk, much resembling the genuine sort, is extracted from its tail. The skin of the Desman is frequently laid among clothes to preserve them from moths.

CHAP. XV.

*Of the Peccary, or Mexican Hog...Of the Ternate Bat
...The Spectre...The Flying Squirrel...The Hooded
Squirrel...The Squirrel Petaurus...The Gray Squir-
rel...The Ground Squirrel...The Palm Squirrel, and
those of Barbary, &c....The Ant-eaters...The Short
and Long-tailed Manis...The Armadillo...The Spot-
ted Cavy...The Opossum...The Marmose...The Cay-
opolin...The Flying Opossum.*

THE PECCARY, OR MEXICAN HOG.

AMONG the animals of the New World, we meet with few species more numerous or more remarkable than that of the Peccary, or Mexican Hog. At the

first glance, this animal resembles our wild boar, or rather the hog of Siam, which, like our domestic hog, as we have already observed, is nothing more than a variety of the wild boar, or wild hog; and for this reason it has been called the boar or hog of America. The Peccary, however, is of a distinct species, and differs from the hog in a number of characteristics, both external and internal. Its head is shorter and broader; it has only four incisor teeth in the upper jaw, instead of six; it has only three instead of six toes on the hind feet; its legs are slenderer; in the stomach and intestines there is a difference of conformation; the tail is extremely short, remarkably flat, and completely pendulous; and its bristles are much stronger than those of the wild boar: and, lastly, it has, upon that part of the back which borders upon the buttocks, an opening from which there is discharged an ichorous humour of a very disagreeable smell. The Peccary is the only animal which has an opening in this region of the body. In the civets, the badger, and the genet, the reservoir for the perfume is situated beneath the parts of generation; and in the musk animals we find it under the belly.

The Peccary may be rendered a domestic animal, like the hog, and has pretty nearly the same habits and natural inclinations. It feeds upon the same aliments; and its flesh, though more dry and lean than that of a hog, is not unpalatable. The female, however, breeds only once a year, and has but two young ones at a birth.

These animals are extremely numerous in all the parts of South America. There are two species: the Collared Peccary, and the White-lipped Peccary. The former is not a migratory animal, but usually

lives in the forest where it was produced, and is generally met with in pairs or in small families. It is the smallest of the two species, seldom measuring three feet in length, or weighing more than fifty pounds. Its general colour is a yellowish gray, with the exception of the legs, which are nearly black; and it has a somewhat erectile mane on the back of the neck, composed of a row of long black bristles.

The White-lipped Peccary is much larger than the other species, as it not unfrequently reaches a length of three feet and a half, and a weight of a hundred pounds. It is thicker and stouter in its proportions, has a longer and thicker mane, and has less of the grayish tinge. "Unlike the former species, the White-lipped Peccaries," says the author of *The Gardens and Menagerie of the Zoological Society*, "congregate in numerous bands, sometimes amounting, it is said, to more than a thousand individuals of all ages. Thus united, they frequently traverse extensive districts, the whole troop occupying an extent of a league in length, and directed in their march, if the accounts of the natives are to be credited, by a leader, who takes his station at the head of the foremost rank. Should they be impeded in their progress by a river, the chief stops for a moment, and then plunges boldly into the stream, and is followed by all the rest of the troop. The breadth of the river or the rapidity of the current appear to be but trifling obstacles in their way, and to be overcome with the greatest facility. On reaching the opposite bank they proceed directly on their course, and continue their march even through the plantations which, unfortunately for the owners, may happen to lie in their way; and which they

sometimes completely devastate by rooting in the ground for their favourite food, or devouring such fruits as they find there. If they meet with any thing unusual on their way, they make a terrific clattering with their teeth, and stop and examine the object of their alarm. When they have ascertained that there is no danger, they continue their route without further delay; but if a huntsman should venture to attack them when they are thus assembled in large numbers, he is sure to be surrounded by multitudes and torn to pieces by their tusks, if he is so unwise as to neglect his only chance of escape, which consists in climbing a tree, and thus getting fairly out of their reach. The smaller bands are by no means equally courageous, and always take to flight at the first attack.

“M. Sonnini relates that he was often, in the course of his travels in Guiana, surrounded by a troop of Peccaries infuriated with the havoc made by the muskets of himself and his companions. Mounted upon a tree, he was enabled to observe their motions, and to notice the manner in which they encouraged, by their grunts and by the rubbing of their snouts together, those among them who were injured by the shots which were poured on them from above. With erected bristles, and eyes sparkling with rage, they still maintained their ground; and it was sometimes only after two or three hours’ incessant firing that they were at last compelled to quit the field of battle, and to leave the bodies of the dead to the mercy of the conquerors. These days of victory over the Peccaries, he adds, are always days of abundance for the traveller in those immense forests, who has no other resource except the chase. An enormous gridiron

is immediately constructed with sticks fixed in the earth, and three feet in height, over which a quantity of small branches are placed in a transverse direction. On these the Peccaries are deposited, after being cut in pieces, and are cooked by a slow fire, which is kept up during the whole night."

In its native country, the Peccary is rather fond of the mountainous parts, than of the low and level grounds; it seems to delight neither in the marshes nor the mud, like our hogs; it keeps among the woods, where it subsists upon wild fruits, roots, and vegetables; it is also an unceasing enemy to the lizard, the toad, and all the serpent kinds with which the uncultivated forests of the New Continent abound. As soon as it perceives a serpent or a viper, it at once seizes it with its fore hoofs and teeth, skins it in an instant, and devours the flesh. They commit great havoc among the sugarcanes, maize, manihot, and potato crops.

The young ones follow the dam, and do not separate from her till they have come to perfection. If taken at first, they are very easily tamed, and soon lose all their natural ferocity; they, however, never display any remarkable signs of docility. They only continue to do no mischief; and they may be permitted to run tame, without apprehending any dangerous consequences. They seldom stray far from home; they return of themselves to the sty, and do not quarrel among each other, except when they happen to be fed in common. When enraged, they draw their breath with great force, and their bristles point upward; nor, on such occasions, can these be said so much to resemble the bristles of the wild boar as the sharp armour of the hedgehog.

THE ROUSSETTE, GREAT TERNATE BAT,
OR VAMPIRE BAT¹;

THE ROUGETTE, OR LESSER TERNATE BAT; AND THE
SPECTRE BAT.

THE Roussette and the Rougette seem to form two distinct species, which, however, are so full of resemblances to each other, that they ought not to be presented asunder. The latter differs from the former solely in the size of the body and the colours of the hair. The Roussette, whose hair is of a reddish brown, is in length nine inches from the tip of the nose to the insertion of the tail, and in breadth three or even four feet, when the membranes, which serve it for wings, are fully extended. The Rougette, whose hair is of a reddish ash-colour, is hardly more than five inches and a half in length, and two feet in breadth; and its neck is half-encircled with a stripe of hair of a lively red, intermixed with orange-colour, of which we perceive no vestige on the neck of the Roussette. They both belong nearly to the same hot climates of the Old Continent. We meet with them in Madagascar, in the island of Bourbon, in Ternate, in the Philippine and other islands of the Indian Archipelago, where, indeed, they seem to be more common than in the neighbouring continents.

The smell of these creatures is ranker than that of a fox, yet the Indians consider them as delicious food, and the French who reside in the Isle of

¹ The name of Vampire Bat was also given to the Spectre Bat by Buffon, but is now appropriated to the Roussette. The two species do not differ materially in their habits.

Bourbon even boil them in their soup to give it a relish! The hair of the Vampire Bat, interwoven with threads of *cyperus squamosus*, is used by the natives of New Caledonia for making ropes and the tassels of their clubs.

In the hotter countries of the New World, and in some of the islands of the Pacific Ocean, we likewise meet with another flying quadruped, of which we know not the American name, but to which I will affix the denomination of Spectre, because it sucks the blood of men, and of animals, while they are asleep, without causing even sufficient pain to awake them. This American animal is of a species different from those of the Roussette and the Rougette, which are both to be found solely in Africa, and in the southern parts of Asia.

The Spectre is smaller than the Rougette, which is itself smaller than the Roussette. The former, when it flies, seems to be of the size of the pigeon; the second, of the size of a raven; and the third, of the size of a large hen. Of both the Roussette and the Rougette the head is tolerably well shaped; the ears are short, and the nose is very round, and nearly in form like that of a dog. Of the Spectre, on the contrary, the nose is more elongated; the aspect is as hideous as that of the ugliest Bats; the head is unshapely, and the ears large, very open, and very straight; its nose is disfigured; its nostrils resemble a funnel, and have a membrane at the top, which rises up in the form of a sharp horn, or cock's comb, and greatly heightens the deformity of its face.

There is no doubt, therefore, but that the species of the Spectre is different from those of the Roussette and the Rougette. It is an animal not less mischievous than it is deformed; it is the pest of man,

the torment and destruction of animals. In confirmation of this truth, a more authentic testimony cannot be produced than that of M. de la Condamine. "The Bats," says he, "which suck the blood of horses, of mules, and even of men, when they do not guard against it by sleeping under the shelter of a pavilion, are a scourge common to most of the hot countries of America. Of these there are some of a monstrous size. At Borja, and several other places, they have entirely destroyed the large cattle which the missionaries had brought thither, and which had begun to multiply."

The Roussette and Rougette are larger, stronger, and perhaps yet more mischievous than the Spectre; but it is by open force, and in the day as well as in the night, that they commit hostilities. Fowls and small animals are the objects of their destructive fury; they even attack men, and bite their faces most cruelly.

All these Bats are animals carnivorous, voracious, and possessed of an appetite for every thing that offers. In a dearth of flesh or fish, they feed on vegetables and fruits of every kind. As they are fond of the juice of the palm tree, so it is easy to take them by placing in the neighbourhood of their retreat a few vessels filled with palm-tree water, or any other fermented liquor, with which they intoxicate themselves. They fasten to, and suspend themselves from, trees with their claws. They are usually seen in troops, and more so by night than by day; places which are much frequented they shun; and their favourite residence is in the deserted parts of islands.

I have frequently thought it worth while to examine how it is possible that these animals should

suck the blood of a person asleep, without causing, at the same time, a pain so sensible as to awake him. Were they to cut the flesh with their teeth or with their claws, the pain of the bite would effectually rouse any of the human species, however soundly asleep. With their tongue only, then, it is possible for them to make such minute apertures in the skin, as to imbibe the blood through them, and to open the veins without causing an acute pain.

The tongue of the Spectre I have not had an opportunity to observe; but that of several Roussettes, which Mr. Daubenton has attentively examined, seems to indicate the possibility of the fact. It is sharp, and full of prickles directed backward; and it appears that these prickles, or points, from their exceeding minuteness, may be insinuated into the pores of the skin, may enlarge them, and may penetrate them so deep, as to command a flow of the blood by the continued suction of the tongue. But we can only conjecture upon a fact of which all the circumstances are imperfectly known to us, and of which some are perhaps exaggerated, or erroneously related, by the writers who have transmitted them to us.

Captain Stedman, while sleeping in the open air in Surinam, was attacked by one of the Spectre Bats. On awaking, about four o'clock in the morning, he was extremely alarmed to find himself weltering in congealed blood, and without feeling any pain. Having started up, he ran to the surgeon, with a firebrand in his hand, and all over besmeared with gore. The cause of his alarm was, however, soon explained. After he had applied some tobacco ashes to the wound, and had washed the gore from himself and his hammock, he examined the place where he had lain, and observed several small heaps

of congealed blood upon the ground ; on examining which, the surgeon judged that he had lost at least twelve or fourteen ounces. Captain Stedman says, that these animals, knowing by instinct that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning with his enormous wings, which keeps the person cool, he bites a piece out of the tip of the great toe, so very small that the head of a pin could scarcely be received into the wound, which is consequently not painful. Yet, through this orifice, he sucks the blood until he is obliged to disgorge. He then begins again, and thus continues sucking and disgorging till he is scarcely able to fly ; and the sufferer has often been known to sleep from time into eternity. The Spectre Bats generally bite in the ear, but always in places where the blood will flow spontaneously.

THE SQUIRREL.



THE FLYING SQUIRREL

Is more common in America than in Europe, where he is seldom seen, except in Russia, Norway, and Lapland. The American species uses the same food, and forms the same hoards, as the common Squirrel ; but the Norwegian feeds principally on

the tender branches of the beech and pine trees. The latter species differs from the former principally in having its tail full of hair, rounded at the end, and its body being a fine gray on the upper part, and white on the lower; while the American has a tail tapering to a point, and is of a cinereous brown on the back, and white tinged with yellow on the belly. This little animal dwells upon trees, like the Squirrel; he goes from branch to branch; and when he leaps upon another tree, his skin, which hangs loose on both sides of his body, is stretched forward by his fore legs, and backward by the hind legs, and increases the surface of his body without adding to its weight, and consequently retards his fall; so that this animal reaches, in one leap, a great distance. This motion is not like the flight of a bird, neither like the fluttering of a bat; both which motions are performed by striking the air with repeated vibrations. It is one single leap, caused by the first impulse, the motion of which is only prolonged, and lasts longer, as the body of the animal, presenting to the air greater surface, finds a greater resistance, and falls more slowly.

The Flying Squirrel is easily tamed; but it often flies; and he must be kept in a cage, or secured with a small chain. He feeds upon bread, fruit, seeds; he is remarkably fond of the buds and shoots of the birch and pine trees. He does not seek after nuts and almonds, like the Squirrel. He makes a bed of leaves, in which he buries himself, and upon which he lies in the daytime, and leaves it in the night, or when pressed by hunger. As he has little agility, he becomes easily the prey of martins, and other animals which climb up the trees; so that the species

is not greatly multiplied, although they have commonly three or four young at a time.

In Virginia there is another of this species, called the **HOODED SQUIRREL**; the lateral membrane begins at the chin and ears, where it forms a kind of hood, and extends, like that of the former, from the fore to the hind legs: its body is of a reddish colour above, and of a yellowish ash beneath. It is a species, as yet, but little known.

THE SQUIRREL PETAURUS.

THIS animal, which is of the *Petaurus* genus, is an inhabitant of New South Wales, and is said to be abundant at the foot of the Blue Mountains. It was first known in England under the name of the Norfolk Island Flying Squirrel. It is nearly of the size of the common Squirrel, with a tail somewhat longer than its body. Above, its colour is of a delicate gray, rather darker on the head; and beneath, it is white. Along the back, from the point of the nose towards the tail, there is a black line, and a similar line bounds the lateral folds of the skin, in front and on the sides. Its fur is of the softest and most beautiful nature. Like most of the New Holland animals, it has an abdominal pouch. During the day it nestles in hollow trees, but as the night advances it grows lively, and by means of its lateral expansions springs from bough to bough, half leaping and half flying. Leaves and insects are its food. There seems reason to believe that, in its flight-like leaps as they have been aptly called, the animal has the power of changing its course. One of them, on

board ship, sprung from the mast-head at the moment when the vessel gave a heavy lurch to the side opposite to that in which the *Petaurus* had directed its leap; yet the animal reached the deck in safety, which it would not have accomplished had it not been able to alter its original direction.

THE GRAY SQUIRREL.



Is found in the northern parts of both continents. He is in shape like a common Squirrel; the outward difference consists in his size; he is larger than Squirrels generally are; the colour of his hair is not red, but light, or deep gray; and his ears are not so hairy towards the extremity, as those of our Squirrels. Many authors think the species is different in Europe and America; that the Gray Squirrels of Europe are of the common kind, and that they change their colour, according to the season, in the northern climates. Without denying absolutely this assertion, which does not seem sufficiently proved, we look upon the Gray Squirrel of Europe and America as the same animal, and as a distinct species, separated from that of common Squirrels, who are found in the northern parts of

both continents, being of the same size and of the same colour; that is, of a red, more or less bright, according to the temperature of the country.

The Gray Squirrel migrates to immense distances. It crosses rivers on a piece of pine bark, and uses its tail as a sail; but the little navigators are often wrecked on these voyages. Its colour is of an elegant pale gray, except on the under parts of the body and the inside of the limbs, which are white. In Sweden and other cold countries, it changes its colour in the winter. It makes its nest in hollow trees with moss, straw, wool, &c. For its winter sustenance it lays up stores of provision in holes made in the ground, and in amassing these it commits great havoc in the plantations, particularly among those of maize. These hoards are often destroyed by swine. It is disliked by the sportsman as much as by the farmer, in consequence of its making a chattering noise on his approach, by which the alarm is given to the game. Its fur is very valuable, and is imported under the name of *petit-gris*.

THE GROUND SQUIRREL.



THE Ground or Striped Squirrel is very numerous in the forests of North America and Northern Asia. It burrows in the ground, and makes two entrances

to its habitation; that if one should be stopped up, it may have access by the other. In autumn, however, when the ground is covered with leaves, and it is warmly pursued, it has often some difficulty in discovering the entrance to its haunt, and it then displays striking signs of consternation. It is only on such occasions that it will take refuge in trees. Its hole is formed with great skill, having several branches from the principal passage, each of which is terminated by a store house, in which its winter food is deposited: in one is contained acorns, in another nuts, in a third maize, and in a fourth chestnuts, which are its favourite food, and of which it sometimes collects not less than two hats full. In Siberia, ten or fifteen pounds weight of the kernels of the stone pine have been taken out of one of these hoards.

During harvest they fill their mouths so full with corn, that their cheeks are quite distended; and in this manner carry it to their concealed store. They give great preference to certain kinds of food; and if, after filling their mouths with rye, they chance to meet with wheat, they discharge the one, that they may secure the other. These animals seldom stir out during winter, nor so long as their provisions last: when those fail, they sometimes work their way into places where apples are laid up, or into barns where maize is stored, and make great havoc.

This animal is marked with a stripe of black, which runs along the ridge of the back; and on each side a yellow stripe, bordered with black: its head, body, and tail, are of a reddish brown; breast and belly white; its nose and feet of a pale red

colour: its eyes full and lively. It is very wild; bites severely, and is tamed with difficulty. Its skin is of but trifling value, and is chiefly sold to the Chinese.

THE PALM SQUIRREL, AND THOSE OF BARBARY AND SWITZERLAND.

THE Palm Squirrel, which is a native of the south eastern portion of Asia and its neighbouring islands, is as large as a rat, or a small Squirrel; he lives upon the palm trees, from which he takes his name: some call him the Palmist Rat, and others the Palm tree Squirrel, we shall call him Palmist. His head is very near of the same form as that of the short-tailed field mouse, and covered with rough hair; his long tail does not lie on the ground, like that of the rat: he carries it erect vertically, without however laying it on his body, as the Squirrel; it is covered with hair longer than that of his body, but much shorter than the hair of the Squirrel's tail: his back is variegated with white and brown stripes, which distinguish the Palmist from all other animals, except the Squirrel of Barbary and Switzerland.

The name of this animal is derived from their being often seen on palm trees; those trees being always found near human habitations in the East. He is a familiar creature, and will enter the houses, and pick up the crumbs that drop from the table. In the orchards, however, he commits woful havoc. His abode is in the roofs of houses and the cavities of old walls. The species is common in India.

As for the Squirrel of Barbary, as he is of the same size, and very near the same form as the Palmist, one should be inclined to think, that they are both of the same species, with some variety; yet there is still reason to believe them different animals. The Squirrel of Barbary has the head and forehead more crooked, the ears longer, the tail more bushy than the Palmist; he is more like a rat than a Squirrel. The Squirrel of Barbary has four white stripes, and the Palmist has no more than three: the white stripe is on the Palmist's backbone; on the contrary, that of the Squirrel of Barbary on the same part of his body is brown and red. These animals, indeed, have very nearly the same habits, and are of the same nature as the common Squirrel. They are both of an elegant form; their coat with white stripes is more valuable than that of the Squirrel; their shape is shorter, their body lighter, and their motions quicker. The Palmist, and the Squirrel of Barbary, dwell on trees like the common Squirrel, but the Swiss Squirrel lives upon earth, and, like the field mouse, forms a retreat that the water cannot penetrate; he is also less docile and less gentle than the two others: he bites without mercy (except he is lately tamed): he is more like a rat, or a field mouse, than a Squirrel, by instinct and nature.

THE TAMANOIR, THE TAMANDUA, AND THE FOURMILLIER, OR ANT-EATER.

SOUTH America produces three species of animals, with a long snout, a small mouth, and no teeth; their tongues, of a round form, are remarkably long; with which they catch the ants, which are their

principal food. On coming to an ant hill, the animal scratches it up with his claws, and then protrudes his slender tongue, which has the appearance of an exceedingly long earthworm. It is covered with a viscous saliva. To this the ants adhere, and, by retracting it, he swallows thousands of them. He also tears up the nests of wood lice, and often climbs the trees in pursuit of them, and of the wild bees and their honey. The first of these Ant-eaters is that which the Brazilians call *Tamandua Guacu*, or Great *Tamandua*, to whom the French settled in America have given the name of *Tamanoir*. The



English call it the Great Ant-eater. This animal is about four feet in length from the extremity of the snout to the origin of the tail; his head is fourteen or fifteen inches long, his snout stretches out to a great length; his tail, two feet and a half long, is covered with rough hair, which is more than a foot in length; his neck is short; his head narrow; his eyes black and small; his ears round; his tongue thin, more than two feet long, which he folds again in his mouth, after he draws it entirely out. His legs are but one foot high; the fore-legs are a little higher and more slender than those behind; he has round feet; the fore feet are armed with four claws, the two middle ones are the longest; those behind

have five claws. The hair of his head and body is black and white; this animal turns his tail up on his back, and covers with it his whole body, when he is inclined to sleep, or wants to shelter himself from the rain or the heat of the sun. The long hair of his tail and of his body is not round in all its extent; it is flat towards the end, and feels like dry grass. He waves his tail frequently and hastily when he is irritated, but it hangs down when he is composed, and he sweeps the way with it as he goes. The Tamanoir walks slowly; a man can easily overtake him in running: his feet seem less calculated to walk than to climb, and to fasten round bodies; and he holds so fast a branch or a stick, that it is not possible to snatch either from him.

The second of these animals is that which the Americans call Tamandua. He is much smaller than the Tamanoir; he is not above eighteen inches from the extremities of the snout to the rump: his head is five inches long, his snout crooked, and underneath flat and long: he has a tail ten inches long, without hair at the end; his ears are erect, and about an inch in length; his tongue is round, eight inches long, and placed in a sort of gutter or hollow canal within the lower jaw; his legs are not above four inches in height, his feet are of the same form, and have the same number of claws as the Tamanoir. He climbs up and holds fast a branch, or a stick, like the Tamanoir, and his march is equally slow. He does not cover himself with his tail, which cannot shelter him, being almost bare; the hair of the fore part is shorter than that of the Tamanoir; when he sleeps he hides his head under his neck and his fore legs.

The third of these animals is that which the naturalists of Guiana call Watiriwaou; and the French Fourmillier, or Ant-eater. He is still much smaller than the Tamandua, being not above six or seven inches in length from the extremity of the snout to the tail; his head is two inches long; the snout is not near so long as that of the Tamanoir, or the Tamandua; his tail is seven inches in length, is bent underneath, and bare at the end: his tongue is narrow, long, and flat; his neck is almost bare; the head is large, in proportion to the body; his eyes placed low, at a little distance from the corners of the mouth; his ears are small, and hidden by the hair; his legs are but three inches in height; the fore feet have no more than two claws, the outward is much longer than the inward one; the hind feet have four claws; the hair of the body is about nine inches long; he feels smooth, his colour is shining, diversified with red and yellow; his feet are not made to walk, but to climb up, and to take hold of branches of trees, on which he hangs himself by the extremity of his tail.

These three animals, so different in size and proportions of the body, have, nevertheless, many things in common, as to conformation and their natural instinct. All three feed upon ants, and suck honey and other liquid and viscous substances; they gather quickly crumbs of bread and small pieces of meat; they are tamed and domesticated easily; they can subsist a long while without food; they do not swallow all the liquor which they keep in their mouth, one part of it issues out of their nostrils; they commonly sleep in the day time, and change their station in the night; they go so slowly, that a man may overtake them easily whilst running

in open ground. The savages eat their flesh, which has, however, an unsavoury taste.

The Tamanoir looks at a distance like a great fox, and for that reason some travellers call him the American fox: he is strong enough to defend himself against a large dog, and even a jaguar; when he is attacked he fights standing on his hind legs, like the bear, and makes use of his fore claws, which are murdering weapons, for his protection; afterwards he lies on his back to use his hind legs, and in this situation he is almost invincible; he fights with obstinacy till the last extremity, and even after he has put his adversary to death, he keeps hold of him a long while. He is covered with long bushy hair, and a very thick skin; besides, his flesh is remarkably hard, and he seldom loses his life in these engagements.

The Tamanoir, the Tamandua, and the Fourmilier, are natives of the hottest climates only of America; they are found in Brazil, in Guiana, and in the country of the Amazons, &c. they do not breed in Canada, nor in the other frozen regions of the New World, and do not belong consequently to the Ancient Continent.

THE PANGOLIN AND PHATAGIN;

OR, THE SHORT AND LONG-TAILED MANIS.

THESE animals are commonly known under the name of scaly lizards; but we reject this denomination; 1st, because it is a compound; 2dly, because it is ambiguous; and applied to both species; 3dly, because it is wrongly imagined; these animals being not only of another kind, but even of another class than the lizards, which are oviparous reptiles,

while the Pangolin and the Phatagin are viviparous quadrupeds.

All the lizards are wholly covered, even under the belly, with a sleek speckled skin, resembling scales; but the Pangolin and the Phatagin have no scales under their throat, on the breast, or the belly; the



Phatagin, like the other quadrupeds, has hair on all these under parts of the body; the Pangolin has nothing but a smooth skin without hair. The scales with which all the other parts of the body of these two animals are clothed and covered, do not stick to the skin; they are only fixed and inherent to it underneath; they are moveable like the prickles of the porcupine. These scales are so large, so hard, and so sharp, that they frighten and discourage all animals of prey; on collision they will strike fire like flint: it is an offensive armour which wounds while it resists.

The most cruel and the most voracious animals, such as the tiger and the panther, make but useless efforts to devour these armed animals; they tread upon them, roll them, but when they attempt to seize them, they are grievously wounded; they can neither terrify them by violence, nor bruise, nor smother them with their weight.

When the Pangolin and the Phatagin contract themselves, they do not take, as the hedgehog, a globular and uniform figure, they form an oblong coat of armour; but their thick and long tail remains outward, and encircles their bodies; this exterior part, by which it seems these animals might otherwise be seized, carries its own defence; it is covered with scales equally hard and sharp with those with which the body is clothed, and as it is convex above, and flat below, in the form of half a pyramid, the sides are covered with square scales folded in a right angle, as thick and as sharp as the others, so that the tail seems to be still more strongly armed than the body, the under parts of which are unprovided with scales.

The Pangolin, or Short-tailed Manis, is larger than the Phatagin, or long-tailed kind; his fore feet are covered with scales, but the Phatagin's feet and part of his fore legs have none, being only clothed with hair. The Pangolin has also larger scales, thicker, more convex, and not so close as those of the Phatagin, which are armed with three sharp points; on the contrary, the scales of the Pangolin are without points, and uniformly sharp. The Phatagin is hairy upon the belly; and the Pangolin has no hair on that part of his body, but between those scales which cover his back some thick and long hair issues like the bristles of a hog, which are not found on the back of the Phatagin.

The Pangolin is from six to eight feet in length, including his tail; the tail is very near as long as the body, though it appears shorter when young; the scales are not then so large nor so thick, and of a pale colour, which is deeper when the animal is adult; they acquire such a hardness, that they resist a musket ball. Like the ant-eaters, the Pangolin

and the Phatagin live chiefly upon ants: they have also a very long tongue, a narrow mouth, and without apparent teeth: their body and their tail are also very long, and the claws of their feet very near of the same length and the same form, but equal in number. Like the ant-eater the Pangolin is also toothless, and has a long cylindrical tongue, which it uses in the same manner as that animal to procure the insects on which it subsists. When the Pangolin approaches an ant hill, it lies down near it, concealing as much as possible the place of its retreat, and stretching out its long tongue among the ants, keeping it for some time immoveable. These little creatures, allured by its shining appearance, and the unctuous substance with which it is smeared, instantly gather upon it in great numbers; and when the Pangolin supposes that it has a sufficiency, it quickly withdraws the tongue, and swallows them at once. This operation it repeats till it be satisfied, or till the ants, grown more cautious, will be no longer allured to their destruction. The ant-eaters are found in America; the Pangolin and the Phatagin in the East Indies, and in Africa, where the Negroes call them quogelo: they eat their flesh, which they reckon a delicate wholesome food; they also use their scales for different purposes. Their mode of killing it is by beating it with clubs. The Pangolin and the Phatagin have nothing forbidding but their figure; they are gentle, harmless, and innocent; they feed upon insects only; they never run fast, and can only escape the pursuit of men by hiding themselves in hollow rocks, or in holes which they dig for themselves; they are two extraordinary species, not numerous, nor very useful: their odd form seems to place them as an intermediate class betwixt the quadrupeds and the reptiles.

THE ARMADILLO.



WHEN a quadruped is mentioned, the very name carries the idea of an animal covered with hair; and yet nature, as if willing to deviate from this characteristic uniformity, very frequently astonishes us by uncommon productions. The quadruped animals, which we look upon as the first class of living nature, and who are, next to man, the most remarkable beings of this world, are not superior in every thing, nor separated by constant attributes. The first of these characters, which constitutes their name, and which consists in having four feet, is common to lizards, frogs, &c. which, however, differ from the quadrupeds in many other respects, so as to make a separate class from them. The second general property, to produce young alive, is not peculiar to quadrupeds, since it is common with whales and other fishes of that class. And the third attribute, that of being covered with hair, exists not in several species, which cannot be excluded from the class of the quadrupeds, since, this characteristic excepted, they agree with them in all other respects.

THE SIX-BANDED ARMADILLO.



UNDER the general name of Armadillo, we may reckon several species which seem to us really distinct; in all of them the animal is protected by a crust resembling bone; it covers the head, the neck, the back, the flanks, the buttocks, and the tail to the very extremity. This crust is covered outwardly by a thin skin, sleek and transparent: the only parts that are not sheltered by this buckler, are the throat, the breast, and the belly, which presents a white grainy skin, like that of a plucked fowl; and, in considering these parts with attention, you will perceive the appearance of scales which are of the same substance as the crust. This crust is, however, not of one piece, like that of the turtle; it consists of several parts joined to each other by as many membranes, which put this armour in motion. The number of these natural bands does not depend on the age of the animal; for the young Armadillo and the adults have in the same species the same number. Father d'Abbeville has distinguished six species of the Armadillo, but the principal difference between them consists in the number of bands or divisions in the armour of the different species. The Six-banded Armadillo differs from its fellows in being also of a smaller size, not larger than that of a young pig, and in its tail being shorter.

The Armadilloes in general are innocent, harmless animals; if they can penetrate into gardens, they will eat melons, potatoes, pulse, and roots. Though used originally to the hot climates of America, they live in temperate regions: I saw formerly one in Languedoc, which was fed at home, and went every where without doing any damage or mischief; they walk quickly, but they can neither leap, run, nor climb up trees; so they cannot escape by flight: they have then no other resource but to hide themselves in their holes, or, if they are at too great a distance from their subterraneous habitations, they contrive to dig one before they are overcome; for the mole is not more expert in digging the ground. They are sometimes caught before they are out of sight, and they make then such a resistance, that the tail is broken without bringing out the body: in order to take them without mutilation, the burrow must be opened, they are then caught without making any resistance: when they find themselves in the hand of their pursuers, they roll themselves up into a ball, and are placed near the fire, to force them to stretch out their coat of mail; which hard as it is, as soon as it is touched with the finger, the animal receives so quick an impression, that he contracts instantaneously. When they are in deep burrows, the method of forcing them out is to smoke them, or to let water run down the hole: the former process, however, is not always successful, as while his pursuer digs the animal digs also, and so effectually closes up the hole, by throwing up the earth backwards, that the smoke is excluded. Some pretend they remain under ground above three months without venturing out; it is true, that they remain in their holes in the day-time, and never go out but in the

night to seek for their subsistence. The Armadillo is hunted with small dogs, who soon overtake him; but he stops before they have reached him, and contracts himself: in this condition he is taken and carried off. If he finds himself on the brink of a precipice, he escapes the dogs and the hunters, by rolling himself up, and letting himself fall down like a ball, without injury or prejudice to his scales.

The Armadillo, says Mr. Waterton, is very common in these (the South American) forests; he burrows in the sand hills like a rabbit. As it often takes a considerable time to dig him out of his hole, it would be a long and laborious business to attack each hole indiscriminately without knowing whether the animal were there or not. To prevent disappointment, the Indians carefully mine the mouth of the hole, and put a short stick down it. Now if, on introducing the stick, a number of musquitoes come out, the Indians know to a certainty that the Armadillo is in it; whenever there are no musquitoes in the hole, there is no Armadillo.

These animals are fat, and very prolific; the female brings forth, as it is reported, four young ones every month, which makes their species very numerous. They are good to eat, and are easily taken with snares laid for them on the banks of rivers, and in the marshy grounds, which they inhabit in preference. It is pretended, that they are not afraid of the bite of the rattlesnake: it is likewise pretended, that they live in peace with these reptiles, which are often found in their holes. The savages apply their scales to different purposes, and make of them baskets, boxes, and other small vessels light and solid. The Armadillo is only found in South America.

THE PACA, OR SPOTTED CAVY,

Is an animal of the New World, who digs a burrow like a rabbit, to which he has been compared, though there is scarcely any likeness between these two animals: he is much larger than the rabbit, and even than the hare; he has a round head, and the snout short; he is fat and bulky, and by the form of his body, he is more like a pig, as well as by grunting, waddling, and the manner of eating; for he does not use, as the rabbit does, his fore feet to carry food to his mouth; but grubs up the earth like the hog, to find his subsistence. The colour of the back is dark brown, or liver-coloured; but is lighter on the sides, which are beautifully marked with lines of white spots, running in parallel directions from its throat to its rump; those on the upper part of the body are perfectly distinct; the belly is white. Its head is large; its ears short and naked; its eyes full, and placed high in its head, near the ears; it has two strong yellow cutting teeth in each jaw; its mouth is small; its upper lip divided; and it has long whiskers on its lips, and on each side of its head, under the ears. Its legs are short, with four toes on the fore, and three on the hind foot; and it has no tail.

These animals inhabit the banks of rivers, and are found in damp and hot places of South America: the flesh is very good to eat, and excessively fat, their skin also is eaten as that of a pig; the natives of Brazil consider the flesh to be a great delicacy; a perpetual war is therefore carried on against these animals. Hunters find it very difficult to take them alive; and when they are surprised in their burrows,

which have two openings, they defend themselves, and bite with great rage and inveteracy. When pursued, they take to the water, and escape by diving. If attacked by dogs, it defends itself vigorously. Their skin, though covered with short and rough hair, is valuable, because it is spotted on the sides. These animals bring forth young in abundance: men, and animals of prey, destroy a great quantity of them, and yet the species is still numerous. They are peculiar to South America, and are found no where in the Old Continent.

THE OPOSSUM



Is an animal of America, which is easily distinguished from all others by two singular characters: the first is, that the female has under the belly a large cavity, where she receives, and suckles her young; the second is, that the male and the female have no claws on the great toe of the hind feet, which are separated from the others, as the thumb in the hand of a man, whilst the other toes are armed with crooked claws, as in the feet of other quadrupeds.

The Opossum is not found in the northern parts

of the New World; but he does not constantly dwell in the hottest climates. He is found not only in Brazil, Guiana, and Mexico, but also in Florida, Virginia, and other temperate regions of this continent. It produces often, and a great number of young each time. Most authors say, four or five young; others, six or seven. Marcgrave affirms, that he has seen six young living in the bag of the female; they were about two inches in length, they were already very nimble, they went in and out of the bag many times in a day; they are still smaller when they are just brought forth. Some travellers say, that they are not larger than flies when they go out of the uterus into the bag, and stick to the paps: this fact is not so much exaggerated as some people may imagine, for we have seen ourselves in an animal, whose species is like that of the Opossum, young ones sticking to the paps not larger than a bean.

The young Opossums stick to the paps of the mother till they have acquired strength enough, and a sufficient growth to move easily. This fact is not doubtful, nor even particular in this species only. Some authors pretend, that they stick to the paps for several weeks; others say, that they remain in the bag only the first month after they go out of the womb. One may open with facility this bag, observe, count, and even feel the young without disturbing them; they will not leave the pap, which they hold with their mouth, until they are strong enough to walk; then they let themselves fall into the bag, and go out, and seek for their subsistence; they go in again to sleep, to suckle, and to hide themselves when they are terrified, when the mother flies, and carries in it the young: her belly does not seem

bigger when she breeds than common, for in the time of the true gestation, it is scarcely perceivable that she is with young.

From the mere inspection of the form of the feet of this animal, it is easy to judge that he walks awkwardly, and seldom runs: a man can overtake him without hastening his steps. He climbs up trees with great facility, hides himself in the leaves to catch birds, or hangs himself by the tail, the extremity of which is muscular, and flexible as the hand, so that he may squeeze, and even incurvate all the bodies he seizes upon: he sometimes remains a long while in this situation, without motion; his body hangs with his head downward, when he silently waits for his prey; at other times, he balances himself to jump from one tree to another like the monkeys with like muscular and flexible tails, which he resembles also in the conformation of the feet. Though he is voracious, and even greedy of blood, which he sucks with avidity, he feeds also upon reptiles, insects, sugarcanes, potatoes, roots, and even leaves and bark of trees. He may be fed as a domestic animal; he is neither wild nor ferocious; he is easily tamed, but he creates disgust by his bad smell, stronger and more offensive than that of the fox; his figure is also forbidding; for, independently of his ears, which resemble those of an owl, of his tail, which resembles that of a serpent, and of his mouth, which is cleft to the very eyes, his body appears always very dirty, because his hair is neither smooth nor curled, but tarnished, as if covered with dirt. The bad smell of this animal resides in the skin, for his flesh is eatable. The savages hunt this animal, and feed on his flesh heartily. It is so tenacious of life, that, in North Carolina, it has given

rise to an adage, that "if a cat has nine lives, an Opossum has nineteen."

The latest and fullest account of the manners and habits of the Opossum tribe is given by Dr. Goodman, an American naturalist. "The Opossum (says he) is very remarkable from other peculiarities, beside those which relate to the continuation of its kind. In the first place, it has a very large number of teeth (no less than fifty), and its hind feet are actually rendered hands, by short, fleshy, and opposable thumbs, which, together with the prominences in the palms of these posterior hands, enable the animal to take firm hold of objects which no one would think could be thus grasped. An Opossum can cling by these *feet* hands to a smooth silk handkerchief, or a silk dress, with great security, and climb up by the same. In like manner he can ascend by a skein of silk, or even a few threads. The slightest projection, or doubling, of any material, affords him a certain mean of climbing to any desired height. Another curious and amusing peculiarity is his prehensile tail; by simply curving this at the extremity, the Opossum sustains his weight, and depends from a limb of a tree, or other projecting body, and hanging in full security, gathers fruit, or seizes any prey within his reach; to regain his position on the limb, it is only necessary to make a little stronger effort with the tail, and throw his body upward at the same time.

"In speaking of the more obvious peculiarities of the Opossum, we may advert to the thinness and membranous character of the external ears, which may remind us in some degree of what has been heretofore said relative to the perfection of the sense of touch possessed by the bat, in consequence of the

delicacy of the extended integument forming the ears and wings. The extremity of the nose of our animal is also covered by a soft, moist, and delicate integument, which is, no doubt, very sensitive. On the sides of the nose, or rather on the upper lip, there are numerous long and strong divergent whiskers, or bristles, projecting to the distance of nearly three inches; over each eye there are two long black bristles, rather softer than the others, somewhat crisped, or undulated, and slightly decurved; while, on the posterior part of the cheek, and about an inch below and in front of the ear, there is a bunch of long, straight bristles (very similar to those of a hog), six or eight in number, projecting laterally, so as to form a right angle with the head. When the elongated conical form of the Opossum's head is recollected, together with its nocturnal habits, we cannot avoid remarking, that all these arrangements appear to have immediate reference to the safety of the animal, furnishing the means of directing its course, and warning it of the presence of bodies which otherwise might not be discovered until too late.

“ The mouth of the Opossum is very wide when open, yet the animal does not drink by lapping, but by suction. The wideness of the mouth is rendered very remarkable when the female is approached, while in company with her young. She then silently drops the lower jaw to the greatest distance it is capable of moving, retracts the angles of the lips, and shows the whole of her teeth, which thus present a formidable array. She then utters a muttering kind of snarl, but does not snap, until the hand, or other object, be brought very close. If this be a stick, or any hard or insensible body, she seldom

closes her mouth on it after the first or second time, but maintains the same gaping and snarling appearance, even when it is thrust into her mouth. At the same time, the young, if they have attained any size, either exhibit their signs of defiance, take refuge in the pouch of the mother, or, clinging to various parts of her body, hide their faces amidst her long hair.

“ The general colour of the Opossum is a whitish gray. From the top of the head along the back and upper part of the sides, the gray is darkest, and this colour is produced by the intermixture of coarse white hairs, upwards of three inches long, with a shorter, closer, and softer hair, which is white at base, and black for about half an inch at tip. The whole pelage (fur) is of a woolly softness, and the long white hairs diverging considerably, allow the back parts to be seen, so as to give the general gray colour already mentioned. On the face the wool is short, and of a smoky white colour; that on the belly is of the same character, but is longer on the fore and hind legs; the colour is nearly black from the body to the digits, which are naked beneath. The tail is thick and black, for upwards of three inches at base, and is covered by small hexagonal scales, having short rigid hairs interspersed throughout its length, which are but slightly perceptible at a little distance. The Opossum is generally killed for the sake of its flesh and fat. Its wool is of considerable length and fineness during the winter season, and we should suppose, that in manufactures it would be equal to the sheep's wool which is wrought into coarse hats.

“ The Opossum is a nocturnal and timid animal, depending for his safety more on cunning than

strength. His motions are slow, and his walk, when on the ground, entirely plantigrade, which gives an appearance of clumsiness to his movements. When on the branches of trees, he moves with much greater ease, and with perfect security from sudden gusts of wind; even were his weight sufficient to break the limb on which he rests, there is no danger of his falling to the earth, unless when on the lowest branch, as he can certainly catch, and securely cling, to the smallest intervening twigs, either with the hands or the extremity of the tail. This organ is always employed by the animal while on the smaller branches of trees, as if to guard against such an occurrence, and it is very useful in aiding the Opossum to collect his food, by enabling him to suspend himself from a branch above, while rifling a bird's nest of its eggs, or gathering fruits.

“ The food of the Opossum varies very much, according to circumstances. It preys upon birds, various small quadrupeds, eggs, and, no doubt, occasionally upon insects. The poultry yards are sometimes visited, and much havoc committed by the Opossum, as, like the weasel, this animal is fonder of cutting the throats and sucking the blood of a number of individuals, than of satisfying his hunger by eating the flesh of one. Among the wild fruits, the persimmon (*Diospyros Virginiana*) is a great favourite, and it is generally after this fruit is in perfection that the Opossum is killed by the country people for the market. At that season it is very fat, and but little difference is to be perceived between this fat and that of a young pig. The flavour of the flesh is compared to that of a roasting pig; we have in several instances seen it refused by dogs and cats, although the Opossum was in fine

order, and but recently killed. This may have been owing to some accidental circumstance, but it was uniformly rejected by these animals, usually not very nice when raw flesh is offered.

“ The hunting of the Opossum is a favourite sport with the country people, who frequently go out with their dogs at night, after the autumnal frosts have begun, and the persimmon fruit is in its most delicious state. The Opossum, as soon as he discovers the approach of his enemies, lies perfectly close to the branch, or places himself snugly in the angle where two limbs separate from each other. The dogs, however, soon announce the fact of his presence, by their baying, and the hunter, ascending the tree, discovers the branch upon which the animal is seated, and begins to shake it with great violence, to alarm, and cause him to relax his hold. This is soon effected, and the Opossum, attempting to escape to another limb, is pursued immediately, and the shaking is renewed with greater violence, until at length the terrified quadruped allows himself to drop to the ground, where hunters, or dogs, are prepared to dispatch him.

“ Should the hunter, as frequently happens, be unaccompanied by dogs when the Opossum falls to the ground, it does not immediately make its escape, but steals slowly and quietly to a little distance, and then gathering itself into as small a compass as possible, remains as still as if dead. Should there be any quantity of grass or underwood near the tree, this apparently simple artifice is frequently sufficient to secure the animal's escape, as it is difficult by moonlight, or in the shadow of the tree, to distinguish it; and if the hunter has not carefully observed the spot where it fell, his labour is often in vain.

This circumstance, however, is generally attended to, and the Opossum derives but little benefit from his instinctive artifice.

“ After remaining in this apparently lifeless condition for a considerable time, or so long as any noise indicative of danger can be heard, the Opossum slowly unfolds himself, and creeping as closely as possible upon the ground, would fain sneak off unperceived. Upon a shout, or outcry, in any tone, from his persecutor, he immediately renews his deathlike attitude and stillness. If then approached, moved, or handled, he is still seemingly dead, and might deceive any one not accustomed to his actions. This feigning is repeated as frequently as opportunity is allowed him of attempting to escape, and is known so well to the country folks, as to have long since passed into a proverb: ‘ He is playing *possum*,’ is applied with great readiness by them to any one who is thought to act deceitfully, or wishes to appear what he is not.

“ The usual haunts of the Opossum are thick forests, and their dens are generally in hollows of decayed trees, where they pass the day asleep, and sally forth, mostly after nightfall, to seek food. They are occasionally seen out during daylight, especially when they have young ones of considerable size, too large to be carried in the maternal pouch. The female then offers a very singular appearance, as she toils along with twelve or sixteen cubs, nearly of the size of rats, each with a turn of his tail around the root of the mother’s, and clinging on her back and sides with paws, hands, and mouth. This circumstance was thought distinctive of another species, hence called *dorsigera*, but is equally true of the common or Virginian Opossum. It is exceed-

ingly curious and interesting to see the young, when the mother is at rest, take refuge in the pouch, whence one or two of them may be seen peeping out, with an air of great comfort and satisfaction. The mother in this condition, or at any time in defence of her young, will make battle, biting with much keenness and severity, for which her long canine teeth are well suited.

“ If taken young, the Opossum is generally tamed, and becomes very fond of human society, in a great degree relinquishes its nocturnal habits, and grows troublesome from its familiarity. We have had one thus tamed, which would follow the inmates of the house with great assiduity, and complain with a whining noise when left alone. As it grew older it became mischievous, from its restless curiosity, and there seemed to be no possibility of devising any contrivance effectually to secure it. The same circumstance is frequently remarked by persons who have attempted to detain them in captivity; and of the instances which have come to our knowledge, where even a great number were apparently well secured, they have all in a short time enlarged themselves, and been no more heard of. In some such instances these animals have escaped in the city, and for a long time have taken up their quarters in cellars, where their presence has never been suspected, as during the day they remained concealed. In this way it is very probable that many are still living in the city of Philadelphia, obtaining a plentiful food by their nightly labours.”

THE MARMOSE, OR MURINE OPOSSUM,

RESEMBLES in most respects the latter species; they are natives of the same climate, in the same continent, and are very much alike by the form of the body, the conformation of the feet, and the tail, a part of which is covered with scales, the upper part only being hairy. But the Marmose is smaller than the common Opossum, his snout is still sharper; the female has no bag under the belly, she has only two loose skins near the thighs, between which the young place themselves to stick to the paps. When the young are brought forth, they are not so large as small beans; they then stick to the paps. The brood of the Marmose is very numerous; we have seen ten small Marmoses, each sticking to a pap, and the mother had still four more paps. It is probable that these animals bring forth a few days after the conception. The young are then fœtuses only, which are not come to the fourth part of their growth.

THE CAYOPOLLIN, OR MEXICAN OPOSSUM,



SAYS Fernandez, is a small animal, a little larger than a rat, very much resembling the Opossum in the snout, the ears, and the tail, which is thicker.

and stronger than that of a rat ; he makes use of it as we do our hands ; he has thin transparent ears ; the belly, the legs, and feet white. The young, when they are frightened, embrace the mother, who lifts them up on the trees. This species has been found on the mountains of New Spain.

THE FLYING OPOSSUM.

THIS animal is found in New South Wales : its head is like a squirrel's, with ears large and erect, but the fur is more delicate, and of a beautiful dark glossy colour, mixed with gray, the under parts white ; on each hip is a tan coloured spot. The sailing membrane resembles the flying squirrel's, but is broader in proportion ; on the fore legs it has five toes, with a claw on each ; on the hind ones, four toes, and a long thumb, which enables the animal to use it as a hand ; it is remarkable, that the three out claws of the hind feet are not separated like the others.

CHAP. XVI.

Of the Elephant...The Rhinoceros...The Camel and Dromedary...The Buffalo, the Urus, the Bison, the Arnee, and the Zebu.

THE ELEPHANT.

THE human race excepted, the Elephant is the most respectable of animals. In size he surpasses all other terrestrial creatures, and in understanding he is inferior only to man. Of all the brute creation, the Elephant, the dog, the ape, and the beaver, are most admirable for their sagacity; but the genius of the dog is only borrowed, being instructed by man in almost every thing he knows; the monkey has only the appearance of wisdom, and the beaver is only sensible with regard to himself, and those of his species. The Elephant is superior to them all three; he unites all their most eminent qualities. The hand is the principal organ of the monkey's dexterity; the Elephant with his trunk, which serves him instead of arms and hands, with which he can lift up, and seize the smallest, as well as the largest objects, carry them to his mouth, place them on his back, hold them, or throw them far off, has the same dexterity as the monkey, and at the same time the tractableness of the dog; he is like him susceptible of gratitude, capable of a strong attachment; he uses himself to man without reluctance, and submits to him, not so much by force, as by good treatment; he serves him with zeal, intelligence, and fidelity; in fine, the Elephant, like the beaver, loves the society of his equals, and makes them understand him. They are often seen to assemble together,

disperse, act in concert, and if they do not erect buildings, and do not work in common, it is perhaps, for want of room only, and tranquillity; for men have very anciently multiplied in all the regions inhabited by the Elephant; he consequently lives in fear and anxiety, and is no where a peaceful possessor of a space large and secure enough to establish his habitation on a settled spot. Every being in nature has his real price, and relative value; to judge of both in the Elephant, we must allow him



at least the judgment of the beaver, the dexterity of the monkey, the sentiment of the dog, and to add to these qualifications, the peculiar advantages of strength, size, and longevity. We must not forget his arms, or his defence, with which he can pierce through, and conquer the lion. We must observe, that he shakes the ground at every step; that with his trunk he roots up trees; that with the strength of his body he makes a breach in a wall; that being terrible by his force, he is invincible by the resistance only of his enormous mass, and by the thickness of the leather which covers it; that he can carry on his back a tower armed in war, with a

number of men ; that he alone moves machines, and carries burthens, which six horses cannot move. To this prodigious strength he joins courage, prudence, coolness, and an exact obedience: he preserves moderation even in his most violent passion ; he is more constant than impetuous in love ; in anger he does not forget his friends ; he never attacks any but those who have given him offence ; he remembers favours as long as injuries: having no taste for flesh, and feeding chiefly upon vegetables, he is not naturally an enemy to other animals ; he is beloved by them all, since all of them respect him, and have no cause to fear him. For these reasons, men have had at all times a veneration for this great, this first of animals. The ancients considered the Elephant as a prodigy, a miracle of nature ; they have much exaggerated his natural faculties ; they attribute to him, without hesitation, not only intellectual qualities, but moral virtues.

In a wild state, the Elephant is neither bloody nor ferocious ; his manners are social ; he seldom wanders alone ; he commonly walks in company, the oldest leads the herd, the next in age drives them, and forms the rear ; the young and the weak are in the middle. The females carry their young, and hold them close with their trunks. They only observe this order, however, in perilous marches, when they go to feed on cultivated lands ; they walk or travel with less precaution in forests and solitary places, but still keeping at such a moderate distance from each other, as to be able to give mutual assistance, and seasonable warnings of danger. Some, however, straggle, and remain behind the others ; none but these are attacked by hunters, for a small army would be requisite to assail the

whole herd, and they could not conquer without a great loss of men; it is even dangerous to do them the least injury, they go straight to the offender, and, notwithstanding the weight of their body, they walk so fast that they easily overtake the lightest man in running; they pierce him through with their tusks, or seize him with their trunks, throw him against a stone, and tread him under their feet; but it is only when they have been provoked, that they become so furious and so implacable. It is said, that when they have been once attacked by men, or have fallen into a snare, they never forget it, and seek for revenge on all occasions. As they have an exquisite sense of smelling, perhaps more perfect than any other animal, owing to the large extent of their nose, they smell a man at a great distance, and could easily follow him by the track. These animals are fond of the banks of rivers, deep valleys, shady places, and marshy grounds; they cannot subsist a long while without water, and they make it thick and muddy before they drink; they often fill their trunks with it, either to convey it to their mouth, or only to cool their nose, and to amuse themselves in sprinkling it around them; they cannot support cold, and suffer equally from excessive heat, for, to avoid the burning rays of the sun, they penetrate into the thickest forests; they also bathe often in the water; the enormous size of their body is rather an advantage to them in swimming, and they do not swim so deep in the water as other animals; besides, the length of their trunk, which they erect, and through which they breathe, takes from them all fear of being drowned.

Their common food is roots, herbs, leaves, and young branches; they also eat fruit and corn, but

they have a dislike to flesh and fish. When one of them finds abundant pasture, he calls the others, and invites them to come and feed with him. As they want a great quantity of fodder, they often change their place, and when they find cultivated lands, they make a prodigious waste; their bodies being of an enormous weight, they destroy ten times more with their feet, than they consume for their food, which may be reckoned at the rate of one hundred and fifty pounds of grass daily. As they never feed but in great numbers, they waste a large territory in about an hour's time; for this reason, the Indians and the Negroes take great pains to prevent their visits, and to drive them away, by making a great noise, and great fires; notwithstanding these precautions, however, the Elephants often take possession of them, drive away the cattle and men, and sometimes pull down their cottages. It is difficult to frighten them, as they are little susceptible of fear; nothing can stop them but fireworks, and crackers thrown amongst them, the sudden effect of which, often repeated, forces them sometimes to turn back. It is very difficult to part them, for they commonly attack their enemies all together, proceed unconcerned, or turn back.

The female Elephant goes two years with young; when she is in that condition the male never conjoins with her. They only bring forth a young one, which has teeth as soon as brought forth; he is then larger than a boar; yet his tusks are not visible, they appear soon after, and at six months old are some inches in length; at that age, the Elephant is larger than an ox, and the tusks continue to increase till he is advanced in years.

It is very easy to tame the Elephant. As he is

the strongest and most rational of animals, he is more serviceable than any of them; but he was formerly supposed to feel his servile condition, and never to couple in a domestic state. This, however, has been found to be an erroneous opinion.

There is, therefore, no domestic Elephant but has been wild before; and the manner of taking, taming, and bringing them into submission, deserves particular attention. In the middle of forests, and in the vicinity of the places which they frequent, a large space is chosen, and encircled with palisadoes; the strongest trees of the forest serve instead of stakes, to which cross pieces of timber are fastened, which support the other stakes; a man may easily pass through this palisado; there is another great opening, through which the Elephant may go in, with a trap hanging over it, or a gate which is shut behind him: to bring him to that enclosure, he must be enticed by a tame female, ready to take the male; and when her leader thinks she is near enough to be heard, he obliges her to indicate by her cries the condition she is in; the wild male answers immediately, and begins his march to join her; she repeats her call now and then, and arrives first to the first enclosure, where the male, following her track, enters through the same gate. As soon as he perceives himself shut up, his ardour vanishes, and when he discovers the hunters, he becomes furious; they throw at him ropes with a running knot to stop him; they fetter his legs and his trunk, they bring two or three tame Elephants, led by dexterous men, and try to tie them with the wild Elephant, and at last, by dint of dexterity, strength, terror, and caresses, they succeed in taming him in a few days.

The Elephant, once tamed, becomes the most

tractable and the most submissive of all animals; he conceives an affection for his leader, he caresses him, and seems to guess whatever can please him: in a little time he understands the signs, and even the expression of sounds; he distinguishes the tone of command, that of anger or good nature, and acts accordingly: he never mistakes the words of his master; he receives his orders with attention, executes them with prudence and eagerness, without precipitation; for his motions are always measured, and his character seems to participate of the gravity of his body; he is easily taught to bend the knee to assist those who will ride on his back; he caresses his friends with his trunk, and salutes with it the persons he is directed to take notice of: he makes use of it to lift burdens, and helps to load himself; he has no aversion to being clothed, and seems to delight in a golden harness or magnificent trappings; he is easily put to the traces of carts, and draws ships upon occasion: he draws evenly, without stopping, or any marks of dislike, provided he is not insulted by unseasonable correction, and provided his driver seems to be thankful for the spontaneous



exertion of his strength. His leader is mounted on his neck, and makes use of an iron rod crooked at the

end, with which he strikes him gently on the head to make him turn or increase his pace; but often a word is sufficient, especially if he has had time to make himself well acquainted with his leader, and has a confidence in him; his attachment is sometimes so strong and so lasting, and his affection so great, that commonly he refuses to serve under any other person, and he is known to have died of grief for having in anger killed his governor.

The species of the Elephant is numerous, though they bring forth but one young once in two or three years; the shorter the life of animals is, the more they multiply: in the Elephant, the length of his life compensates the small number; and if it is true, as has been affirmed, that he lives two hundred years; and that he begets when he is one hundred and twenty years old, each couple brings forth forty young in that space of time: besides, having nothing to fear from other animals, and little even from men, who take them with great difficulty, the species has not decreased, and is generally dispersed in all the southern parts of Africa and Asia.

From time immemorial the Indians made use of Elephants in war. Amongst those nations unacquainted with the European military discipline, they were the best troop of their armies; and as long as battles were decided by mere weapons, they commonly vanquished: yet we see in history, that the Greeks and Romans used themselves soon to those monsters of war; they opened their ranks to let them go through; they did not attempt to wound them, but threw all their darts against their leaders, who were forced to surrender, and to calm the Elephants when separated from their troops; and now that fire is become the element of war, and the prin-

cipal instrument of death, the Elephants, who are afraid of the noise and the fire of the artillery, would be rather an incumbrance in battle, and more dangerous than useful.

In those regions, however, where our cannons and murdering arts are yet scarcely known, they fight still with Elephants. At Cochin, and in the other parts of Malabar, they do not make use of horses, and all those who do not fight on foot are mounted upon Elephants. In Tonquin, Siam, and Pegu, the king, and all the grandees, never ride but upon Elephants: on festival days they are preceded and followed by a great number of these animals richly caparisoned, and covered with the richest stuffs. On comparing the relations of travellers and historians, it appears that the Elephants are more numerous in Africa than in Asia; they are there also less mistrustful, not so wild, and, as if they knew the unskilfulness and the little power of the men with whom they have to deal in this part of the world, come every day without fear to their habitations.

THE ASIATIC ELEPHANT.

IN general, the Elephants of Asia are of a larger size, and superior in strength to those of Africa; in particular, those of Ceylon, who exceed in courage and sagacity all those of Asia: probably they owe these qualifications to their education, more improved in Ceylon than any where else. They differ also in other particulars, so as to constitute them a different species. "His head (says Mr. Bennett) is more oblong, and his forehead presents in the centre a deep concavity between two lateral and rounded

elevations; that of the African being round and convex in all its parts. The teeth of the former are composed of transverse vertical laminæ of equal breadth, while those of the latter form rhomboidal or lozenge-shaped divisions. The ears of the Asiatic



are also smaller, and descend no lower than his neck, and he exhibits four distinct toes on his hind feet: the African, on the contrary, is furnished with ears of much greater size, descending to his legs, and no more than three toes are visible on his posterior extremities." The individual which is the subject of the wood cut is believed to be little more than three years old.

The Elephants of the Indies easily carry burdens of three or four thousand weight; the smallest, that is, those of Africa, lift up freely with their trunks burdens of two hundred pounds weight, and place

them on their shoulders; they take in this trunk a great quantity of water, which they throw out around them at seven or eight feet distance; they can carry burdens of more than a thousand weight upon their tusks; with their trunk they break branches of trees, and with their tusks they root out the trees. One may judge of their strength by their agility, considering at the same time the bulk of their body; they walk as fast as a small horse on the trot, and when they run, they can keep up with a horse on full gallop, which seldom happens in their wild state, except when they are provoked by anger, or frightened. The tame Elephants travel easily, and without fatigue, fifteen or twenty leagues a day; and when they are hurried, they may travel thirty-five or forty leagues. They are heard at a great distance, and may be followed very near on the track, for the traces which they leave on the ground are not equivocal; and on the ground where the steps of their feet are marked, they are fifteen or eighteen inches in diameter.

When the Elephant is taken care of, he lives a long while even in captivity. Some authors have written, that he lives four or five hundred years; others, two or three hundred; and the most credible, one hundred and twenty, thirty, and even one hundred and fifty years. Whatever care, however, is taken of the Elephant, he does not live long in temperate countries, and still less in cold climates. The Elephant which the king of Portugal sent to Louis XIV. in 1668, and which was then but four years old, died in his seventeenth, in January, 1681, and lived only thirteen years in the menagerie of Versailles, where he was treated with care and tenderness, and fed with profusion: he had every day

four pounds of bread, twelve pints of wine, two buckets of porridge, with four or five pounds of bread, two buckets of rice boiled in water, without reckoning what was given to him by visitors; he had, besides, every day one sheaf of corn to amuse himself; for, after he had eaten the corn ears, he made a kind of whip of straw, and used it to drive away the flies; he delighted in breaking the straw in small bits, which he did with great dexterity with his trunk; and, as he was led to walk daily, he plucked the grass and eat it.

The common colour of the Elephant is ash-gray, or blackish. The white are extremely scarce; some have been seen at different times in the Indies, where also some are found of a reddish colour.

The Elephant has very small eyes, comparatively with his enormous size, but they are sensible and lively: and what distinguishes them from all other animals is their pathetic, sentimental expression. He seems to reflect, to think, and to deliberate; and never acts till he has examined and observed several times, without passion or precipitation, the signs which he is to obey. Dogs, the eyes of which have much expression, are animals too lively to distinguish their successive sensations; but as the Elephant is naturally grave and sedate, one may read in his eyes the order and outward appearance of his interior affections.

He has a quick hearing, and this organ is outwardly, like that of smelling, more marked in the Elephant than in any other animal; his ears are very large, even in proportion to his body; they are flat, and close to the head, like those of a man; they commonly hang down, but he raises them up, and moves them with great facility; he makes use of

them to wipe his eyes, and to cover them against the inconveniency of dust and flies. He delights in the sound of instruments, and seems to like music; he soon learns to beat time, and to move accordingly: he seems animated by the beat of the drum and the sound of trumpets; he has an exquisite smell, and is passionately fond of perfumes of all sorts, and of fragrant flowers; he selects them one after another, and makes nosegays, which he smells with eagerness, and then carries them to his mouth as if he intended to taste them.

His sense of feeling centres in his trunk; but it is as delicate and as distinct in that sort of hand as in that of man: this trunk, composed of membranes, nerves, and muscles, is, at the same time, a member capable of motion, and an organ of sense: the animal can not only move and bend it, but he can shorten, lengthen, and turn it all ways. The extremity of this trunk terminates by an edge, which projects above like a finger: it is with this sort of finger that the Elephant does whatever we do with ours; he picks up from the ground the smallest pieces of money; he gathers nuts and flowers, choosing them one after another; he unties knots, opens and shuts doors, turning the keys, and bolts them; he learns to draw regular characters with an instrument as small as a pen.

Although the Elephant has a more retentive memory, and more intelligence than any other animal, he has the brain smaller than most of them: he is, at the same time, a miracle of intelligence and a monster of matter; his body is very thick, without any suppleness; the neck is short and very stiff; the head small and deformed; the ears of an excessive diameter; and the nose is of a still more

disproportionate length; the eyes are too small, as well as the mouth; his legs are like massive pillars, straight and stiff; the feet so short and so small, that he seems to have none; the skin is hard, thick, and callous. All these deformities are remarkable, as all of them are exhibited in large; and they are more disagreeable to the eye, as most of these deformities have no other example in the creation; no other animal having either the head, the feet, the nose, the ears, or the tusks, made or placed like those of the Elephant.

The Elephant is yet singular in the conformation of the feet and the texture of the skin. He is not clothed with hair like other quadrupeds; his skin is bare; some bristles issue out of the chops; they are very thin on the body, and thicker on the eyelids, on the back part of the head, within the ears, the thighs, and the legs. The epidermis, or outside skin, hard and callous, has two sorts of wrinkles, some hollow, others prominent. In man, and other animals, the epidermis sticks every where close to the skin. In the Elephant, it is only fastened by some points, like two quilted stuffs one above the other. This epidermis is naturally dry, and soon acquires three or four lines of thickness, by the crusts which are generated one above the other drying up. It is this thickness of the epidermis which produces the *elephantiasis*, or dry leprosy, to which man, whose skin is bare, like that of the Elephant, is sometimes subject. This distemper is very common to Elephants; and, to prevent it, the Indians take care to rub them often with oil, and to preserve the skin supple by frequent bathing. It is rather tender where it is not callous; and the Elephant is so fearful of the sting of the flies, that he not only employs

his natural motions, but even the resources of his intelligence, to get rid of them; he makes use of his tail, of his ears, of his trunk, to strike them; he contracts his skin wherever he can, and squeezes them to death betwixt his wrinkles. He cleans his skin by rubbing it with pumice stones, and afterwards pours on it perfumed oil and colours. The conformation of the feet and legs is also singular, and different in the Elephant from that of other animals; the fore legs seem to be higher than those behind, yet the hind legs are the longest; they are not bent like the hind legs of a horse or an ox, the thighs of which seem to be of the same piece with the buttocks; their knee is very near the belly, and the foot so high and so long, that it seems to make a great part of the leg. In the Elephant, on the contrary, this part is very short, and touches the ground; he has the knee, like man, in the middle of the leg, not near the belly. This foot, so short and so small, is divided into five toes, which are all covered with a skin, none appearing outwardly; one sees only a sort of claws, the number of which varies, though that of the toes is constant; for he has always five to each foot, and commonly also five claws; but sometimes he has no more than four, or even three; and, in this case, they do not correspond exactly with the extremity of the fingers.

The ears of the Elephant are very long; his tail is not longer than the ear; it is commonly near three feet in length; it is rather thin, sharp, and garnished at the extremity with a tuft of large, black shining, and solid bristles which are as large and as strong as wire; and a man cannot break them with his hands, as they are elastic and pliant. This tuft of hair is an ornament which the Negro women are

particularly fond of; and they attribute to it some particular virtue, according to their superstitious notions; an Elephant's tail is sometimes sold for two or three slaves; and the Negroes often hazard their lives to cut and snatch it from the living animal.

The largest Elephants of the Indies, and the eastern coasts of Africa, are fourteen feet high; the smallest, which are found in Senegal, and in the other western parts of Africa, are not above ten or eleven feet; and those which have been brought young into Europe, were not so high. That at the menagerie at Versailles, which came from Congo, was but seven feet and a half high in his seventeenth year. During thirteen years that he lived in France, he did not grow above a foot; so that at the age of four, when he was sent, he was only six feet and a half high.

In order to give a complete idea of the nature and intelligence of this singular animal, we shall insert here some particulars communicated by the Marquis of Montmirail. The Indians make use of the Elephant to carry artillery over mountains; and it is then, that he gives the greatest proofs of his intelligence. He acts in the following manner:—When the oxen, yoked two and two, endeavour to draw up the mountain the piece of artillery, the Elephant pushes the breach of the gun with his forehead; and at every effort that he makes, he supports the carriage with his knee, which he places near the wheel; and it seems as if he understands what is said to him. When his leader employs him in some hard labour, he explains what is his work, and the reasons which ought to engage him to obey. If the Elephant shows an aversion to comply, the *cornac*

(so his leader is called) promises to give him arrack, or something he likes; then the animal agrees to every thing proposed; but it is dangerous to forfeit his word; more than one *cornac* has been the victim of his deception. An instance of this happened in the Deccan, which deserves to be recorded; and, however incredible it may appear, it is exactly true. An Elephant had been revenged of his *cornac* by killing him. His wife, witness of this catastrophe, took her two children and threw them to the feet of the animal, still furious; telling him, *Since thou hast killed my husband, take also my life, and that of my children.* The Elephant stopped short, grew calm, and, as if he had been moved with regret and compassion, took with his trunk the largest of the two children, placed it on his neck, adopted him for his *cornac*, and would have no other leader.

If the Elephant is vindictive, he is no less grateful. A soldier of Pondicherry, who commonly carried to one of these animals a certain measure of arrack every time that he received his pay, having one day drank more than common, and seeing himself pursued by the guard, who threatened to conduct him to prison, took refuge under the Elephant, and slept there. It was in vain that the guard attempted to draw him out from this asylum; the Elephant defended him with his trunk. The next day the soldier, become sober, was struck with terror to lie under an animal of this enormous bulk. The Elephant, who, no doubt, perceived his consternation, caressed him with his trunk, to remove his fears, and made him understand that he might depart freely.

The Elephant falls sometimes into a sort of a frenzy, which deprives him of his tractableness, and

makes him extremely formidable. This commonly happens at the season when the male is desirous of the female. He is commonly killed on the first symptoms of madness, for fear of mischief¹. Sometimes he is tied with heavy chains, in hopes that he will come to himself; but when he is in his natural state, the most acute pains cannot engage him to do any harm to persons who have not offended him. An Elephant, furious with the wounds which he had received in battle at Hambour, ran through the fields, and cried out in a most hideous manner. A soldier, who, notwithstanding the warning of his companions, could not fly, perhaps, because he was wounded, remained in his way; the Elephant was afraid to trample him under his feet, took him with his trunk, placed him gently on one side of the road, and continued his march. The gentlemen of the Academy of Sciences have also communicated to us some facts which they have learned from those who governed the Elephant at the menagerie of Versailles; and these facts seem to deserve a place. "The Elephant seemed to discern when any person made a fool of him; and he remembered the affront to be revenged of it the first opportunity. Having been balked by a man, who feigned to throw something into his mouth, he struck him with his trunk, and broke two of his ribs; afterwards he trampled him under his feet, and broke one of his legs; and having kneeled down, he tried to thrust his tusks into the man's belly, which, however, went into the ground on both sides of the thigh, which was not wounded. He bruised another man, by squeezing

¹ Two instances have happened, within a few years, one at Geneva, and one at Exeter 'Change, in which it became necessary to destroy the unfortunate animal.

him against the wall, for a similar mockery. A painter was desirous to draw him in an extraordinary attitude, which was, to keep his trunk erect, and the mouth open. The servant of the painter, to make him remain in that attitude, threw fruits into his mouth; but afterwards he deceived him, which provoked his indignation; and, as if he had known that the cause of this deception was the painter's desire of having him drawn, he was revenged on the master, by throwing with his trunk a great quantity of water, which spoiled the paper intended for his design."

He made less use of his strength than of his dexterity, which was such, that he untied, with great facility, a double leather string which fastened his leg, with his mouth untying it from the buckle's tong, and after this buckle had a small string twisted around it, with divers knots, he untied them all, without breaking any thing. One night, that he had thus disentangled himself from his leather strings, he broke open, so dexterously, the door of his lodge, that his governor was not waked by the noise. He went thence into divers yards of the menagerie, breaking open the doors that were shut, and pulling down the stone work, when the passage was too narrow for him; and thus he went into the lodges of other animals, terrifying them to such a degree, that they ran away to hide themselves in the most remote part of the park. In fine, to omit nothing of what may contribute to make all the natural faculties of this animal perfectly known, as well as his acquired knowledge, we shall add some facts, extracted from the most credible authors.

Of five Elephants (says Tavernier), which hunters had taken, three escaped, although their bodies and

their legs were fastened with chains and ropes. These men told us a very surprising circumstance, if we can believe it, which is, that when once these Elephants have been caught, and eluded the snares of their adversaries, if they are compelled to go into the woods, they are mistrustful, and break with their trunk a large branch, with which they sound the ground before they put their foot upon it, to discover if there are any holes on their passage, not to be caught a second time; which made the hunters, who related this singularity, despair of catching again the three Elephants who had escaped. We saw the other two which they had caught; each of them was betwixt two tame Elephants; and around the wild Elephants were six men, holding spears. They spoke to these animals in presenting them something to eat, and telling them, in their language, *Take this, and eat it.* They had small bundles of hay, bits of black sugar, or rice boiled in water, with pepper. When the wild Elephant refused to do what he was ordered, the men commanded the tame Elephants to beat him, which they did immediately; one striking his forehead with his; and when he seemed to aim at revenge against his aggressor another struck him; so that the poor wild Elephant perceived he had nothing to do, but to obey.

I have observed several times (says Edward Terry), that the Elephant does many things which are rather an indication of human reasoning, than a simple, natural instinct. He does whatever his master commands him. If he orders him to frighten any person, he advances towards him with the same fury as if he would tear him to pieces; and when he comes near him, he stops short, without doing him any harm. If the master wishes to affront another,

he speaks to the Elephant, who takes with his trunk dirty water, and throws it at his face. The Mogul has Elephants for the execution of criminals condemned to death. If their leader bids them to dispatch these wretches soon, they tear them to pieces in a moment with their feet: on the contrary, if he commands them to make these criminals languish, they break their bones one after another, and make them suffer torments as cruel as those of the wheel.

THE RHINOCEROS.



AFTER the elephant the Rhinoceros is the most powerful of all quadrupeds. He is at least twelve feet in length, from the extremity of the snout to the tail; six or seven feet in height; and the circumference of his body is very near equal to his length; he is therefore like the elephant in bulk; and if he appears much smaller, it is because his legs are much shorter in proportion to those of the elephant; but he differs widely from that sagacious animal, in his natural faculties, and his intelligence; having received from Nature merely what she grants in common to all animals; deprived of all feeling in

the skin, having no organ answering the purpose of hands, nor distinct for the sense of feeling, he has nothing instead of a trunk, but a moveable upper lip, in which centres all his dexterity. He is superior to other animals only in strength, size, and the offensive weapon which he carries upon his nose, and which is peculiar to him. This weapon is a very hard horn, solid throughout, and placed more advantageously than the horns of ruminating animals; these only protect the superior parts of the head and neck, whilst the horn of the Rhinoceros defends all the exterior parts of the snout, and preserves the muzzle, the mouth, and the face from insult; so that the tiger attacks more readily the elephant, in seizing his trunk, than the Rhinoceros, which he cannot attack in front, without running the danger of being killed; for the body and limbs are covered with an impenetrable skin; and this animal fears neither the claws of the tiger nor the lion, nor even the fire and weapons of the huntsman; his skin is a dark leather, of the same colour, but thicker and harder than that of the elephant; he does not feel the sting of flies; he cannot contract his skin; it is only folded by large wrinkles on the neck, the shoulders, and the buttocks, to facilitate the motions of the legs, which are massive, and terminate in large feet, armed with three great claws. The skin of the two-horned Rhinoceros is much more easily penetrable than that of the single-horned. He has the head larger in proportion than the elephant; but the eye still smaller, which he never opens entirely, and they are so situated that the animal can see only what is in a direct line before him. The upper jaw projects above the lower; and the upper lip has a motion, and may be lengthened

six or seven inches; it is terminated by a sharp edge, which enables this animal, with more facility than other quadrupeds, to gather branches and grass, and divide them into handfuls, as the elephant does with his trunk. This muscular and flexible lip is a sort of trunk very incomplete, but which is equally calculated for strength and dexterity. Instead of those long ivory teeth which form the tusks of the elephant, the Rhinoceros has his powerful horn, and two strong incisive teeth in each jaw. These incisive teeth, which the elephant has not, are placed at a great distance from each other in the jaws of the Rhinoceros. He has, besides these twenty-four smaller teeth, six on each side of each jaw. His ears are always erect; they are, for the form, like those of a hog, only they are larger in proportion to his body; they are the only hairy parts of it. The end of the tail is, like that of the elephant, furnished with a tuft of large bristles, very hard and very solid. Huge and seemingly unwieldy as the Rhinoceros is, he has the power of running with very great swiftness.

The Rhinoceros which arrived in London in 1739 had been sent from Bengal. Although he was young (being but two years old), the expenses of his food, and his voyage, amounted to near one thousand pounds sterling; he was fed with rice, sugar, and hay. They gave him daily seven pounds of rice, mixed with three pounds of sugar; which they divided into three parts. He had also a great quantity of hay and green grass, to which he gave the preference. His drink was nothing but water, of which he drank a great quantity at once. He was of a quiet disposition, and let his manager touch him on all the parts of his body. He grew

unruly when he was struck, or was hungry; and in both cases he could not be appeased without giving him something to eat. When he was angry, he leaped forward with impetuosity to a great height, beating furiously the walls with his head; which he did with a prodigious quickness, notwithstanding his heavy appearance.

This Rhinoceros, when he was two years old, was not much higher than a young cow who has not yet borne young; but his body was very long, and very thick. The tongue of this young Rhinoceros was soft, like that of a calf; his eyes had no vivacity; they are like those of a hog in form, and were placed very low; that is, nearer the opening of the nostrils.

Mr. Parsons says, that he has observed a very particular quality in this animal; he hearkened with a sort of continual attention to any noise; so that, if he was even sleepy, employed in eating, or in satisfying other urgent wants, he started instantly, raised up his head, and gave attention till the noise had ceased.

It is certain that some Rhinoceroses have but one horn on the nose, and others two. In the two-horned Rhinoceros one of the horns is smaller than the other, and is situated above it. When the animal is quiescent these horns are loose, but they become fixed when it is irritated. There are single horns of three feet and a half, and perhaps of more than four feet in length, by six or seven inches in diameter at the basis; there are also double horns which are but two feet in length. Commonly, these horns are brown, or olive colour; yet some are gray, and even white. They have only a small concavity, in form of a cup, at their basis, by which they are fastened to the skin of the nose; the remaining part

of the horn is solid, and very hard. It is with this weapon that the Rhinoceros is said to attack, and sometimes to wound mortally, the largest elephants, whose long legs give to the Rhinoceros, who has them much shorter, an opportunity of striking them with his horn under the belly, where the skin is tender, and more penetrable; but when he misses the first blow, the elephant throws him on the ground, and kills him.

The horn of the Rhinoceros is more valued by the Indians than the ivory of the elephant; not so much on account of the matter, of which they make several works with the chisel, but for its substance, to which they attribute divers virtues, and medicinal properties. The white ones, as the most rare, are also those which they value most. Cups made of this horn are used to drink out of by many of the Indian princes, under the erroneous idea that when any poisonous fluid is put into them, the liquor will ferment, and run over the top.

The Rhinoceros, without being ferocious or carnivorous, or even very wild, is, nevertheless untamable. He is of the nature of a hog, blunt and grunting, without intellect, without sentiment, and without tractableness. These animals are also, like the hog, very much inclined to wallow in the mire; they like damp and marshy places, and seldom leave the banks of rivers. They are found in Asia and Africa, in Bengal, Siam, Laos, in the Mogul dominions, in Sumatra, in Java, in Abyssinia, and about the Cape of Good Hope. But, in general, the species is not so numerous, or so universally spread, as that of the elephant. The female brings forth but one young, and at a great distance of time. In the first month the Rhinoceros is not much bigger

than a large dog; he has not, when first brought forth, the horn on the nose, although the rudiment of it is seen in the foetus. When he is two years old, this horn is only an inch long; and in his sixth year, it is about ten inches; and as some of these horns have been seen very near four feet long, it seems they grow till his middle age, and perhaps during the whole life of the animal, which must be long, since the Rhinoceros described by Mr. Parsons was not come to half his growth when he was two years old; which makes it probable, that this animal lives, like a man, seventy or eighty years.

Without being useful, as the elephant, the Rhinoceros is very hurtful, by the prodigious devastation which he makes in the fields. The skin is the most valuable thing of this animal. His flesh is excellent, according to the taste of Indians and Negroes. Kolben says, he has often eaten it with great pleasure. His skin makes the best and hardest leather in the world; and not only his horn, but all the other parts of his body, and even his blood, his urine, and his excrements, are esteemed as antidotes against poison, or a remedy against several diseases; probably, however, all those virtues are imaginary.

The Rhinoceros feeds upon herbs, thistles, prickles, shrubs, and he prefers this wild food to the sweet pasture of the verdant meadows; he is very fond of sugar-canes, and eats all sorts of corn. Having no taste whatever for flesh, he does not molest small animals, neither fears the large ones, living in peace with them all, even with the tiger, who often accompanies him, without daring to attack him: I doubt, therefore, whether the battles betwixt the elephant and the Rhinoceros have any foundation; they must, however, seldom happen, since there is no

notice for war on either side; and, besides, no sort of antipathy has been observed between these animals. Some have even been seen in captivity, living quietly together, without giving offence or provocation to each other.

The Rhinoceroses do not herd together, nor march in troops, like the elephant; they are wilder, and more solitary, and perhaps more difficult to be hunted and subdued; they never attack men unless provoked; but then they become furious, and are very formidable: the steel of Damascus, the scymitars of Japan, cannot make an incision in his skin; the darts and lances cannot pierce him through: his skin even resists the balls of a musket; those of lead become flat upon his leather, and the iron ingots cannot penetrate through it: the only places absolutely penetrable in this body armed with a cuirass, are the belly, the eyes, and round the ears; so that huntsmen, instead of attacking this animal standing, follow him at a distance by his track, and wait to approach him at the time that he sleeps or rests himself. There is in the King of France's cabinet a *foetus* of a Rhinoceros, which was sent from the island of Java, and extracted from the body of the mother. It was said, in a memorial which accompanied this present, that twenty-eight huntsmen had assembled to attack this Rhinoceros; they had followed her far off for some days, one or two men walking now and then before, to reconnoitre the position of the animal. By these means they surprised her when she was asleep, and came so near in silence, that they discharged, all at once, their twenty-eight guns into the lower parts of her belly.

We have seen, that this animal has a good ear; it is also affirmed, that he has the sense of smelling

in perfection ; but it is pretended, he has not a good eye, and sees only before him : that his eyes are so small, and placed so low, and so obliquely, they have so little vivacity and motion, that this fact needs no other confirmation. His voice, when he is calm, resembles the grunting of a hog ; and when he is angry, his sharp cries are heard at a great distance. Though he lives upon vegetables, he does not ruminate ; thus, it is probable, that, like the elephant, he has but one stomach, and very large bowels, which supply the office of the paunch. His consumption, though very great, is not comparable to that of the elephant ; and it appears, by the thickness of his skin, that he loses less than the elephant by his perspiration.

THE CAMEL AND THE DROMEDARY.



THESE two names do not include two different species, but only indicate two distinct breeds, subsisting from time immemorial, in the Camel species. The principal, and, as may be said, the only perceptible character by which they differ, consists in the Camel's bearing two bunches, or protuberances,

and the Dromedary only one. The latter is also much less, and not so strong as the Camel; but both of them herd and procreate together; and the production from this cross breed is more vigorous, and of greater value, than the others.

This mongrel issue from the Dromedary and the Camel forms a secondary breed, which also mix and multiply with the first; so that in this species, as well as in that of other domestic animals, there are to be found a great variety, according to the difference of the climates they are produced in. Aristotle has judiciously marked the two principal breeds; the first (which has two bunches), under the name of the **BACTRIAN CAMEL**; and the second, under that of the **ARABIAN CAMEL**; the first are called **TURKMAN**, and the others **ARABIAN CAMELS**. This division still subsists, with this difference only, that it appears, since the discovery of those parts of Africa and Asia which were unknown to the ancients, that the Dromedary is, without comparison, more numer-



ous and more universal than the Camel; the last being seldom to be found in any other place than in Turkey, and in some other parts of the Levant;

while the Dromedary, more common than any other beast of his size, is to be found in all the northern parts of Africa, in Egypt, in Persia, in South Tary, and in all the northern parts of India.

The Dromedary, therefore, occupies an immense tract of land, while the Camel is confined to a small spot of ground; the first inhabits hot and parched regions; the second a more moist and temperate soil. The Camel appears to be a native of Arabia; for it is not only the country where there is the greatest number, but it is also best accommodated to their nature. Arabia is the driest country in the world; and the Camel is the least thirsty of all animals, and can pass seven days without any drink. The land is almost in every part dry and sandy: the feet of the Camel are formed to travel in sand; while on the contrary, he cannot support himself in moist and slippery ground. Herbage and pasture are wanting to this country, as is the ox, whose place is supplied by the Camel.

The Arabs regard the Camel as a present from heaven, a sacred animal, without whose aid they could neither subsist, trade, nor travel. It has been emphatically called the ship of the desert. Its milk is their common nourishment; they likewise eat its flesh, especially that of the young ones, which they reckon very good. The hair of these animals, which is fine and soft, is renewed every year, and serves them to make stuffs for their clothing and their furniture. Blessed with their Camels, they not only want for nothing, but they even fear nothing. With them they can, in a single day, place a tract of desert, of fifty miles, between them and their enemies, and all the armies in the world would perish in the pursuit of a troop of Arabs. Let any one figure to

himself a country without verdure, and without water, a burning sun, a sky always clear, plains covered with sand, and mountains still more parched, over which the eye extends, and the sight is lost, without being stopped by a single living object; a dead earth, *flayed* (if I may be allowed the expression) by the winds, which presents nothing but bones of dead bodies, flints scattered here and there, rocks standing upright or overthrown; a desert entirely naked, where the traveller never drew his breath under the friendly shade; where he has nothing to accompany him, and where nothing reminds him of living nature; an absolute void a thousand times more frightful than that of the forest, whose verdure, in some measure, diminishes the horrors of solitude; an immensity which he in vain attempts to overrun; for hunger, thirst, and burning heat, press on him every weary moment that remains between despair and death.

Nevertheless, the Arab has found means to surmount these difficulties, and even to appropriate to himself these gaps of Nature; they serve him for an asylum; they secure his repose, and maintain him in his independence. But why does not man know how to make use of them without abuse? This same Arab, free, independent, tranquil, and even rich, instead of respecting those deserts as the ramparts of his liberty, soils them with guilt: he traverses over them to the neighbouring nations, and robs them of their slaves and gold: he makes use of them to exercise his robberies, which, unfortunately he enjoys more than his liberty; for his enterprises are almost always successful: notwithstanding the caution of his neighbours, and the superiority of their forces, he escapes their pursuit, and, un-

punished, bears away all that he has plundered them of.

An Arab who destines himself to this business of land piracy, early hardens himself to the fatigue of travelling: he accustoms himself to pass many days without sleep; to suffer hunger, thirst, and heat; at the same time he instructs his Camels, he brings them up, and exercises them in the same method. A few days after they are born, he bends their legs under their bellies, and constrains them to remain on the earth, and loads them, in this situation, with a weight as heavy as they usually carry, which he only relieves them from to give them a heavier. Instead of suffering them to feed every hour, and drink even when they are thirsty, he regulates their repasts, and, by degrees, increases them to greater distances between each meal, diminishing also, at the same time, the quantity of their food. When they are a little stronger, he exercises them to the course; he excites them by the example of horses, and endeavours to render them also as swift, and more robust; at length, when he is assured of the strength and swiftness of his Camels, and that they can endure hunger and thirst, he then loads them with whatever is necessary for his and their subsistence. He departs with them, arrives unexpectedly at the borders of the desert, stops the first passenger he sees, pillages the straggling habitations, and loads his Camels with his booty. If he is pursued he is obliged to expedite his retreat; and then he displays all his own and his animals' talents. Mounted on one of his swiftest Camels, he conducts the troop, makes them travel day and night, almost without stopping either to eat or drink. In this manner, he easily passes over three hundred miles in eight

days; and, during all that time of fatigue and travel, he never unloads his Camels, and only allows them an hour of repose, and a ball of paste each day. They often run in this manner for eight or nine days without meeting with any water, during which time they never drink; and when by chance they find a pool at some distance from their route, they smell the water at more than half a mile before they come to it. Thirst now makes them redouble their pace; and then they drink enough for all the time past, and for as long to come; for often they are many weeks in travelling; and their time of abstinence endures as long as they are upon their journey.

In Turkey, Persia, Egypt, Arabia, Barbary, &c. they use no other carriage for their merchandise than Camels, which is, of all their conveyances, the most ready, and the cheapest. Merchants, and other travellers, assemble themselves in caravans, to avoid the insults and piracies of the Arabs. These caravans are often very numerous, and often composed of more Camels than men. Every one of these Camels is loaded according to his strength; and he is so sensible of it himself, that when a heavier load than usual is put upon him, he refuses it, by constantly remaining in his resting posture, till he is lightened of some of his burden.

Large and strong Camels generally carry a thousand, and even twelve hundred weight; the smaller only six or seven hundred. In these commercial journeys, they do not travel quick; and, as the route is often seven or eight hundred miles, they regulate their stages; they only walk, and go every day ten or twelve miles; they are disburthened every evening, and are suffered to feed at liberty. If they are

in a part of the country where there is pasture, they eat enough in one hour to serve them twenty-four, and to ruminate on during the whole night; but they seldom meet with pastures, and this delicate food is not necessary for them: they even seem to prefer wormwood, thistles, nettles, furze, and other thorny vegetables, to the milder herbs; and so long as they can find plants to brouse on, they very easily live without any drink.

This facility with which they abstain so long from drinking, is not pure habit, but rather an effect of their formation. Independent of the four stomachs which are commonly found in ruminating animals, the Camel is possessed of a fifth bag, which serves him as a reservoir to retain the water. This fifth stomach is peculiar to the Camel. It is of so vast a capacity, as to contain a great quantity of liquor, where it remains without corruption, or without the other aliments being able to mix with it. When the animal is pressed with thirst, or has occasion to dilute the dry food, and to macerate it for rumination, he causes a part of this water to reascend into the stomach, and even to the throat, by a simple contraction of the muscles.

This animal bears about him all the marks of slavery and pain; below the breast, upon the sternum, is a thick and large callosity, as tough as horn; the like substance appears upon the joints of the legs; and although these callosities are to be met with in every animal, yet they plainly prove that they are not natural, but produced by an excessive constraint, and pain, as appears from their being often found filled with pus. It is therefore evident, that this deformity proceeds from the custom to which these animals are constrained, of

forcing them, when quite young, to lie upon their stomach with their legs bent under them, and in that cramped posture to bear not only the weight of their body, but also the burdens with which they are laden. These poor animals must suffer a great deal, as they make lamentable cries, especially when they are overloaded; and, notwithstanding they are continually abused, they have as much spirit as docility. At the first sign they bend their legs under their bodies, and kneeling upon the ground, they are unloaded, without the trouble of lifting up the load to a great height, which must happen, were they to stand upright. As soon as they are loaded, they raise themselves up again without any assistance or support; and the conductor, mounted on one of them, precedes the whole troop, who follow him in the same pace as he leads. They have neither need of whip or spur to excite them: but, when they begin to be fatigued, their conductors support their spirits, or rather charm their weariness, by a song, or the sound of some instrument. When they want to prolong the route, or double the day's journey, they give them an hour's rest; after which, renewing their song, they again proceed on their way for many hours more; and the singing continues until the time that they stop. Then the Camels again kneel down on the earth, to be relieved from the burden, by the cords being untied, and the bales rolled down on each side. They remain in this cramped posture, with their belly couched upon the earth, and sleep in the midst of their baggage, which is tied on again the next morning with as much readiness and facility as it was untied before they went to rest. These are, however, not their only inconveniences: they are prepared for all these evils

by one still greater; by mutilating them by castration while young. They leave but one male for eight or ten females; and all the labouring Camels are commonly gelt: they are weaker, without doubt, than those which are not castrated; but they are more tractable than the others, who are not only indocile, but almost furious, in the rutting time, which remains forty days, and which happens every spring of the year. The female goes with young exactly a year, and, like all other large animals, produces but one at a birth. They have great plenty of milk, which is thick, and nourishing even for the human species, if it is mixed with more than an equal quantity of water. The females seldom do any labour while they are with young, but are suffered to bring forth at liberty. The profit which arises from their produce, and from their milk, perhaps surpasses that which is got from their labour; nevertheless, in some places, a great part of the females undergo castration, as well as the males, in order to render them more fit for labour. In general, the fatter the camels are, the more capable they are of enduring great fatigues. Their hunches appear to be formed only from the superabundance of nourishment; for, in long journeys, where they are obliged to stint them in their food, and where they suffer both hunger and thirst, these hunches gradually diminish, and are reduced almost even; and the eminences are only discovered by the height of the hair, which is always much longer upon these parts than upon any other part of the back.

The young Camel sucks its mother a year: and when they want to bring him up so as to make him strong and robust, they leave him at liberty to suck or graze for a longer time, nor begin to lead him, or

put him to labour, till he has attained the age of four years. The Camel commonly lives forty or fifty years.

The Camel is not only of greater value than the elephant, but perhaps not of less than the horse, the ass, and the ox, all united together. He alone carries as much as two mules; he not only also eats less, but likewise feeds on herbs as coarse as the ass. The female furnishes milk a longer time than the cow; the flesh of young Camels is good and wholesome, like veal; their hair is finer, and more sought after than the finest wool; there is not a part of them, even to their excrements, from which some profit is not drawn; for sal ammoniack is made from their urine; their dung, when dried and powdered, serves them for litter, as it does for horses, with whom they often travel into countries where neither straw nor hay is known. In fine, a kind of turf is also made of this dung, which burns freely, and gives a flame as clear, and almost as lively, as that of dry wood; even this is another great use, especially in deserts, where not a tree is to be seen, and where, from the deficiency of combustible matters, fire is almost as scarce as water.

THE BUFFALO, THE AUROCHS, THE BISON, AND THE ZEBU.

ALTHOUGH the Buffalo is, at this present time, common in Greece, and tame in Italy, it was neither known by the Greeks nor Romans; for it never had a name in the language of these people. The word *buffalo* even indicates a strange origin, not to be derived either from the Greek or Latin tongues. In

effect, this animal is originally a native of the hottest countries of Africa and India, and was not transported and naturalized in Italy till towards the seventh century. It is true, the ancients have spoken of an animal, as of a different species from the ox, under the name of *bubalus*; and Aristotle has mentioned the wild ox of Pæonia, which he has called *bonasus*. Both the ancients and moderns, however, have multiplied the species unnecessarily; and from attentive observation, I am clearly of opinion, that there are but two species which are essentially different, viz. the ox and the Buffalo.

We may observe, throughout the different regions of the world, the breed of oxen differing from each other in all external appearances, according to the nature of the climate, or other circumstances; but the most remarkable difference is that which divides them into two classes, viz. the *Aurochs*, or ox without a hunch on its back, and the *Bison*, or hunched ox. From indubitable facts, however, we have the utmost reason to conclude, that these are no other than varieties of the same species. The hunch, the length and quality of the hair, and the form of the horns, are the sole characters by which the Bison is distinguished from the Aurochs; but the hunched oxen couple and produce with our oxen; and we likewise know, that the length and quality of the hair, in all animals, depends on the nature of the climate; and we have remarked, that, in oxen, goats, and sheep, the form of the horns is various and fluctuating. These differences, therefore, do not suffice to establish two distinct species; and since our tame ox of Europe couples with the hunched ox of India, we have the greatest reason to think that it would also couple with the Bison, or hunched ox of

Europe. Notwithstanding this, however, we are not to be surprised, that the two kinds have not melted or coalesced into a mongrel breed, since many circumstances may have occurred to keep them asunder; and, in fact, we actually find that these kinds have subsisted till this present time, either in a free and wild, or in a tame state; and are scattered, or rather have been transported into all the climates of the earth. All the tame oxen without hunches have proceeded from the Aurochs, and all with hunches are issues of the Bison. In order to give a just idea of the varieties, we shall make a short enumeration of these animals, such as they are found actually to be in the different parts of the earth.

To begin with the north of Europe, the few oxen and cows which subsist in Iceland are without horns, although they are of the same kind as our oxen. The size of these animals is rather relative to the plenty and quality of pasture, than to the nature of the climate. The Dutch have often brought lean cows from Denmark, which fatten prodigiously in their meadows, and which give plenty of milk. These Danish cows are longer than ours. The oxen and cows of Ukraine, where there is excellent pasture, are said to be the largest in Europe; they are also of the same kind as our oxen.

The breed of Aurochs, or ox without a hunch, inhabits the cold and temperate zones. It is not very much dispersed towards the southern countries: on the contrary, the breed of the Bison, or hunched ox, fills all the southern provinces, at this present time. In the whole continent of India; the islands of the South Seas; in all Africa, from Mount Atlas to the Cape of Good Hope, we find, I may say, nothing but hunched oxen; and it even appears, that this

breed, which has prevailed in all the hot countries, has many advantages over the others. These hunched oxen, like the Bison, of which they are the issue, have the hair much softer and more glossy than our oxen, who, like the Aurochs, are furnished but with little hair, which is of a harsh nature. These hunched oxen are also swifter, and more proper to supply the place of a horse; at the same time, that they have a less brutal nature, and are not so clumsy and stupid as our oxen, they are more tractable, and sensible which way you would lead them. The regard the Indians have for these animals is so great, as to have almost degenerated into superstition. The ox, as the most useful animal, has appeared to them the most worthy of being revered; for this purpose, they have made an idol of the object of their veneration, a kind of beneficent and powerful divinity; for we are desirous of rendering all we respect, great, and capable of doing much good, or much harm.

These hunched oxen, perhaps, vary again more than ours, in the colours of the hair, and the figure of the horns. The handsomest are all white, like the oxen of Lombardy; there are also some that are without horns; there are others who have them very much elevated, and others so bent down, that they are almost pendent; it even appears, that we must divide this first kind of Bisons, or hunched oxen, into two secondary kinds; the one very large, and the other very small; and this last is that of the ZEBU; both have soft hair, and a hunch on the back. This hunch does not depend on the conformation of the spine, nor on the bones of the shoulder; it is nothing but an excrescence, a kind of wen, a piece of tender flesh, as good to eat as the tongue of an ox. The wens of some oxen weigh

about forty or fifty pounds; others have them much smaller; some of these oxen have also prodigious horns for their size: there is one in the French King's cabinet, which is three feet and a half in length, and seven inches in diameter at the base. Many travellers affirm, they have seen them of a capacity sufficient to contain fifteen, and even twenty pints of water.

Thus all the southern parts of Africa and Asia are inhabited with hunched oxen, or Bisons, among which a great variety is to be met with in respect to size, colour, shape of the horns, &c. On the contrary, all the northern countries of these two parts of the world, and Europe entirely, comprehending even the adjacent islands, to the Azores, are only inhabited by oxen without a hunch, who derive their origin from the Aurochs. The Bison, or wild hunched ox, is stronger, and much larger than the tame ox of India; it is also sometimes smaller; but that depends only on the quantity of food. At Malabar, at Abyssinia, at Madagascar, where the meadows are naturally spacious and fertile, the Bisons are all of prodigious size. In Africa and Arabia Petræa, where the land is dry, the Zebus, or Bisons, are of the smallest stature.

Every part of South America is inhabited by oxen without hunches, which the Spaniards, and other Europeans, have successfully transported. These oxen are multiplied, and are only become smaller in these countries. In all the northern parts, as far as Florida, Louisiana, and even as far as Mexico, the Bisons, or hunched oxen, are to be found in great numbers. These Bisons, which formerly inhabited the woods of Germany, Scotland, and other of our northern countries, have probably passed from one

continent to the other, and are become, like other animals, smaller in this new world; and as they are habituated to climates more or less cold, they have preserved their coat more or less warm; their hair is longer and thicker; the beard is longer at Hudson's Bay than at Mexico; and, in general, this hair is softer than the finest wool.

Thus the wild and the tame ox, the European, the Asian, the American, and the African ox, the bonasus, the Aurochs, the Bison, and the Zebu, are all animals of one and the same species, who, according to the climates, food, and different usage they have met with, have undergone all the variations we have before explained. The ox, as the most useful animal, is also the most universally dispersed. He appears ancient in every climate, tame among civilized nations, and wild in desert or unpolished countries; he supports himself by his own strength when in a state of nature, and has never lost the qualities which are useful to the service of man. The young wild calves which are taken from their mothers in India and Africa, have, in a short time, become as tractable as those which are the issue of the tame kind; and this natural conformity is another striking proof of the identity of the species.

If it be asked, which of the two kinds, the Aurochs or the Bison, claims the first place? It appears to me, that a satisfactory answer may be drawn from the facts we have just laid down. The hunch or wen of the Bison is probably no other than an accidental character, which is defaced and lost in the mixture of the two kinds. The Auroch, or ox without a hunch, then, is the most powerful and predominant of the two; for, if it was the contrary, the hunch, instead of disappearing, would extend and

remain upon every one of this mixed breed. What confirms and proves still more the identity of the species of Bison and Aurochs, is, that the Bisons, or hunch-backed oxen, in the north of America, have so strong a smell, that they have been called *Musk Oxen* by the greatest number of travellers; and, at the same time, we find, by the accounts of observing people, that the Aurochs, or wild ox of Prussia and Livonia, has the smell of musk, like the Bison of America.



There remain, therefore, but two species, the BUFFALO and the Ox, out of all the names placed at the head of this section; to each of which the ancient and modern naturalists have given a separate and distinct species. These two animals, although greatly resembling each other, both tame, and often living under the same roof, and fed in the same meadows, yet, when brought together, and even excited by their keepers, have ever refused to unite and couple together; their nature is more distant than that of the ass is from the horse; there even appears to be a strong antipathy between them; for it is affirmed, that cows will not suckle the young Buffaloes; and the female Buffalo refuses the same

kindness to the other's calves. The Buffalo is of a more obstinate nature, and less tractable than the ox; he obeys with great reluctance, and his temper is more coarse and brutal; like the hog, he is one of the filthiest of the tame animals, as he shows by his unwillingness to be cleaned and dressed; his figure is very clumsy, and forbidding; his looks stupidly wild; he carries his tail in an ignoble manner, and his head in a very bad posture, almost always inclined towards the ground; his voice is a hideous bellowing, with a tone much stronger and more hoarse than that of the bull; his legs are thin, his tail bare, and his physiognomy dark, like his hair and skin. He differs externally from the ox, chiefly in the colour of his hide; and this is easily perceived under the hair, with which he is but sparingly furnished; his body is likewise thicker and shorter than that of the ox; his legs are longer, and proportionably much less; the horns not so round, black, and partly compressed, with a tuft of hair frizzled over his forehead; his hide is likewise thicker and harder than that of the ox; his flesh is black and hard, and not only disagreeable to the taste, but to the smell; the milk of the female is not so good as that of the cow; nevertheless, she yields a greater quantity. In hot countries, almost all the cheese is made of Buffaloes' milk. The flesh of the young Buffaloes, though killed during the suckling time, is not good. The hide alone is of more value than all the rest of the beast, whose tongue is the only part that is fit to eat. This hide is firm, light, and almost impenetrable. As these animals, in general, are larger and stronger than the oxen, they are very serviceable in the plough; they draw well, but do not carry burdens; they are led by the means

of a ring passed through their nose. Two Buffaloes harnessed, or rather chained, to a waggon, will draw as much as four strong horses. As they carry their tails and their heads naturally downwards, they employ the whole force of their body in drawing; and this heavy mass greatly surpasses that of a horse or a labouring ox.

The form and thickness of the Buffalo alone are sufficient to indicate that he is a native of the hottest countries. The largest quadrupeds belong to the torrid zone in the Old Continent; and the Buffalo, for his size and thickness, ought to be classed with the elephant, the rhinoceros, and the hippopotamus. The camel is more elevated, but slenderer, and is also an inhabitant of the southern countries of Africa and Asia: nevertheless, the Buffaloes live and multiply in Italy, in France, and in other temperate provinces. Those that are in the French king's menagerie have brought forth two or three times. The female has but one at a time, and goes about twelve months; which is another proof of the difference between this species and that of the cow, who only goes nine months. It appears also that these animals are gentler and less brutal in their native country; and the hotter the climate is, the more tractable is their nature. In Egypt they are more so than in Italy; and in India they are more so than in Egypt. Those of Italy have also more hair than those of Egypt, and those of Egypt more than those of India. Their coat is never entirely covered, because they are natives of hot countries; and, in general, large animals of this climate have either no hair, or else very little.

There are a great number of wild Buffaloes in the countries of Africa and India, which are watered

with many rivers, and furnished with large meadows. These wild Buffaloes go in droves, and make great havoc in cultivated lands; but they never attack the human species, and will not run at them, unless they are wounded, when they are very dangerous; for they make directly at their enemy, throw him down, and trample him to death under their feet; nevertheless, they are greatly terrified at the sight of fire, and are displeased at a red colour.

The Buffalo, like all other animals of southern climates, is fond of bathing, and even of remaining in the water; he swims very well, and boldly traverses the most rapid floods. As his legs are longer than those of the ox, he runs also quicker upon land. The Negroes in Guinea, and the Indians in Malabar, where the wild Buffaloes are very numerous, often hunt them. They neither pursue them nor attack them openly, but, climbing up the trees, or hiding themselves in the woods, they wait for them and kill them, the Buffaloes not being able, without much trouble, to penetrate these forests, on account of the thickness of their bodies, and the impediment of their horns, which are apt to entangle in the branches of the trees. These people are fond of the flesh of the Buffalo, and gain great profit by vending their hides and their horns, which are harder and better than those of the ox. The animal that is called in Congo *empacupa*, or *pacapa*, though very ill described by travellers, seems to me to be the Buffalo; as that which they have spoken of, under the name of *empabunga*, or *impaiunca*, in the same country, may possibly be the bubalus.

THE BISON.



THIS formidable animal is, as M. Buffon states, a variety of the ox tribe. It inhabits both parts of the American continent; and in North America immense herds are frequently seen. The fore parts of the body are very thick and strong; the hinder are comparatively slender; the body is covered in many parts with long shaggy hair; the horns are short, rounded, and pointing outwards; and on the shoulders is a high protuberance, which is the distinctive mark of the Bison. This hunch is considered as a great delicacy by the Indians.

These animals are so ferocious, that they cannot be safely pursued, except in forests, where there are trees large enough to conceal the hunters: they are, therefore, generally taken in pitfalls covered with boughs of trees and grass, where they are easily overcome and slain. They commonly range in droves, feeding in the open savannahs morning and evening; and reposing during the sultry part of the day on the shady banks of rivulets or streams of water. Sometimes they leave so deep an impression of their feet on the moist sand, as to be thus traced

and shot by the Indians: but, on these occasions, the utmost precaution is requisite; since their sense of smelling is extremely acute, and when slightly wounded, they become perfectly infuriate, and certain death awaits the assailant. Yet, notwithstanding their wildness in a state of nature, there is reason to believe that they might be domesticated without much difficulty, and their immense strength would render them a valuable acquisition to mankind. The experiment has been tried in America, and it has fully succeeded. There is something affecting in the fondness of the young Bison for its dam. If the mother be killed, the calf, instead of attempting to escape, follows the hunter who is carrying away the remains of its parent, and manifests strong signs of sorrow.

THE ARNEE.

THIS animal, which is an inhabitant of various parts of India north of Bengal, far exceeds in size any of the cattle tribe that has hitherto been discovered; it being from twelve to fifteen feet in height. The horns, which are full two feet in length, are erect and semilunar, flattened, and annularly wrinkled, with smooth, round, approaching points. The Arnee is seldom seen within the European settlements, but a very young one was picked up alive in the Ganges, some years ago, which was as big as an immensely large bullock, and weighed nearly three quarters of a ton. A British officer, who found one in the woods in the country above Bengal, describes it as a bold and daring animal, and its form as seeming to partake of the horse, the bull, and the deer. Some of the native princes are said to keep Arnees for parade, under the name of fighting bullocks.

THE ZEBU.

THE Zebu, or Barbary Cow, is somewhat like the bison, having a hump on its shoulders, from twenty to forty pounds in weight. They are often saddled like horses, and are also used in drawing chariots, carts, &c. Instead of a bit, a ring or small cord is passed through the cartilage of the nostrils, which is tied to a larger cord, and serves as a bridle.

CHAP. XVII.

Of the Moufflon, and other Sheep...The Axis...The Tapir...The Zebra...The Zebra of the Plains...The Hippopotamus...The Elk, and Rein-deer...The Malayan Rusa Deer.

THE MOUFFLON, OR ARGALI,
AND OTHER SHEEP.

THE breed of Sheep, though perhaps originally all of the same species, yet are found to be very different in different countries. Our domestic Sheep is only to be met with in Europe, and some of the most temperate provinces of Asia, and if transported into Guinea, loses its wool, and is covered with hair. It increases there but little, and its flesh has no longer the same taste: it cannot also subsist in cold countries.

In Iceland, a breed of Sheep is to be found, who have many horns, short tails, harsh and thick wool, under which, as in almost every animal in the north, is a second lining, of a softer, finer, and thicker wool.

These animals are sometimes wintered in stables, but are generally left to provide for themselves in the open plains. Caves are their retreats in stormy weather; but when they cannot reach such places of shelter, and are involved in falls of snow, they place their heads near each other, with their muzzles downward towards the ground. In this situation they will remain for several days, and hunger will sometimes compel them to gnaw each other's wool. They yield from two to six quarts of milk a day. Their wool is not shorn, but loosens of itself about the end of May, and is then stripped off at once, like a skin.

In warm climates, some are covered with wool, others with hair, and a third kind with hair mixed with wool. The first kind of Sheep of those countries is that commonly called the Barbary or Arabian Sheep, which entirely resembles the tame kind, excepting in the tail, which is very much loaded with fat, is often more than a foot broad, and weighs upwards of twenty pounds. As for external appearance, this Sheep has nothing remarkable but the tail, which he carries as if a pillow was fastened to his hinder parts. Among this kind of broad-tailed Sheep, there are some whose tails are so long and heavy, that the shepherds are obliged to fasten a small board with wheels, in order to support them as they walk along. This tail, which is a substance between marrow and fat, is considered as a great delicacy. In the Levant, these Sheep are clothed with a very fine wool. In the hotter countries, as Madagascar and India, they are clothed with hair. The superabundance of fat, which in our Sheep fixes upon the reins, in these Sheep descends under the vertebræ of the tail; the other parts of the body are less charged with it than in our fat Sheep.

This variety is to be attributed to the climate, the food, and the care of mankind; for these broad, or long-tailed Sheep, are tame, like those of our country; and they even demand much more care and management. This breed is much more dispersed than ours; they are commonly met with in Tartary, Thibet, Turkey, Persia, Syria, Egypt, Barbary, Ethiopia, and Madagascar; and even as far as the Cape of Good Hope. In Thibet, their fleeces, which are very fine, are manufactured into shawls.

THE STREPSICEROS.



IN the islands of the Archipelago, and chiefly in the island of Candia, there is a breed of Sheep of which Bellon has given the figure and description, under the name of *Strepsiceros*. This Sheep is of the make of our common Sheep: it is, like that, clothed with wool, and only differs from it by the horns, which are larger and rise upwards, but are twisted into spirals. The distance between the horns of the Ewe enlarges towards their tops; those of the Ram are parallel. This animal, which is commonly called the Wallachian Sheep, is frequent in Austria and Hungary, where its name is Zackl.

THE AFRICAN SHEEP.



IN the hottest countries of Africa and India, there is a breed of large Sheep, which has rough hair, short horns, hanging ears, and a kind of tuft under the tail. Leo Africanus, and Marmol, call it *adamain*; and it is known to the naturalists by the names of the *Senegal Ram*, the *Guinea Ram*, and the *Angola Sheep*, &c. He is tame like ours, and, like him, subject to variety. These, though different in themselves by particular characters, resemble each other so much in other respects, that we can scarcely doubt but they are of the same kind.

A specimen of the male African Sheep is now in the Tower menagerie, to which it was presented about six years ago by Lord Liverpool. In temper it is extremely mild; but it is an uncouth looking creature. It is high on the legs, narrow in the loins, and its coat is rough and shaggy. Its horns are

remarkably small, and within their curve the ears are enclosed. Whenever the ears escape from this seeming confinement, the animal exhibits much uneasiness; and, difficult as it is for him to replace them, he never rests till it is accomplished. On his back and sides he is nearly black; the shoulders are of a reddish brown; the posterior part of the body, the haunches, the hind legs, the tail, the nose, and also the ears, which are rather large, are white. There is likewise a white spot over each eye.

In considering, therefore, according to the difference of climate, the Sheep which are purely tame, we find,

1. The Sheep of the north, who have many horns, and whose wool is rough and very thick; and the Sheep of the island of Gothland, Muscovy, and many other parts of the north of Europe, whose wool is thick, and who appear to be of the same breed.

2. Our Sheep, whose wool is very good and fine in the mild climates of Spain and Persia, but in hot countries changes to a rough hair. We have already observed, this conformity in this influence of the climates of Spain and Khorasan, a province of Persia, on the hair of cats, rabbits, hares, &c. It acts in the same manner upon the wool of Sheep, which is very fine in Spain, and still finer in this part of Persia.

3. The broad-tailed Sheep, whose wool is also very fine in temperate countries, such as Persia, Syria, and Egypt; but which, in hot countries, changes into a hair more or less rough.

4. The Sheep *strepsiceros*, or Cretan Sheep, who resemble ours both in wool and make, excepting the horns, which are straight and furrowed.

5. The *adimain*, or the great Sheep of Senegal

and India, which in no part is covered with wool, but, on the contrary, is clothed with hair, which is longer or shorter, rougher or smoother, according to the heat of the climate. All these Sheep are only varieties of one and the same species, and certainly would unite one with the other, since the goat, whose species is farther distant, procreates with our Sheep, as we are assured from experience. But none of these tame Sheep have the characters of an original species.

THE MOUFFLON.



IN Kamtschatka, in the mountains of Greece, in the islands of Cyprus, Sardinia, Corsica, and the deserts of Tartary, the animal which we call the *moufflon*, or *argali*, is still to be found. It appears to us to be the primitive stock of all Sheep. He lives in a state of nature, and subsists and multiplies without the help of man; he resembles the several kinds of tame Sheep more than any other animal; he is livelier, stronger, and swifter than they are; his head, forehead, eyes, and face are like the Ram's; he resembles him also in the form of the horns, and

in the whole habit of body. In short, he procreates with the tame Sheep, which alone is sufficient to demonstrate that he is of the same species, and the primitive stock of the different breeds.



The only disagreement betwixt the Moufflon and our Sheep is, that the first is covered with hair instead of wool; but we have observed that, even in tame Sheep, the wool is not an essential character, but a production of a temperate climate. Hence, it is not astonishing that the original, or primitive and wild Sheep, who has endured cold and heat, lived and increased, without shelter, in the woods, is not covered with wool, which he would soon be deprived of among the thickets and thorny bushes. Besides, when a he-goat is coupled with a tame Sheep, the production is a kind of wild Moufflon, a Lamb covered with hair, and not a barren mule, but a mongrel, which returns to the original species, and which appears to indicate that our goats and tame Sheep have something common to them both in their origin.

The general colour of the Moufflon is brown, approaching to that of the red deer: but the inside of the thighs, and the belly, are of a white, tinged

with yellow. On the neck are two pendent hairy dewlaps. The horns of the old Rams frequently grow to such a size as to weigh sixteen or eighteen pounds each. The Moufflon is a fleet, active, and acute smelling animal, and cannot be taken, or even shot, without extreme difficulty. Its flesh, however, is held in such estimation by the natives of Kamtschatka, that, to procure it, there is no toil or danger which they will not cheerfully encounter.

THE AXIS.

THIS animal being only known by the vague names of the *Hind* of *Sardinia*, and the *Deer* of the *Ganges*, we have thought it necessary to preserve the name which Belon has given to him, and which he borrowed from Pliny. The Axis is of the small number of ruminating animals who wear horns, like the stag. He has the shape and swiftness of the fallow-deer; but what distinguishes him from the stag and fallow-deer is, that his body is marked with white spots, elegantly disposed, and separated one from another, and that he is a native of hot countries (Hindustan, and particularly Bengal); while the stag and deer have their coat of a uniform colour, and are to be met with in greater numbers, in cold countries and temperate regions, than in hot climates.

The gentlemen of the Academy of Sciences have only given him the name of the *Sardinian Hind*, because, very probably, they received that name from the royal menagerie; but there is nothing indicated of this animal's being a native of Sardinia; no author has ever mentioned, that he exists in that island like a wild animal; but, on the contrary, we

see, by examining authors, that he is found in the hottest countries of Asia.

We have already remarked, that there is no species which approaches so near to another, as that of the deer to the stag: nevertheless, the *Axis* appears to be an intermediate mixture between the two. He resembles the deer in the size of his body, the length of his tail, and his coat, which is the same during his whole life: he only essentially differs from that animal in his horns, which nearly resemble those of the stag. The *Axis*, therefore, may possibly be only a variety depending on the climate, and not a different species from the deer; for, although he is a native of the hottest countries of Asia, he supports, and easily multiplies in, that of Europe. There are many herds of them in the menagerie of Versailles; but it has never yet been observed, that they mix either with the deer or with the stags; and this is the cause of our presuming, that it was not a variety of one or the other, but a particular and mediate species between the two. It is a very mild and timid animal.

THE TAPIR, OR THE ANTA,

Is, with the exception of the horse, the largest animal in America, where living nature seems to be lessened, or rather has not had time to arrive at its greatest dimensions. The animals also of South America, which alone properly and originally belong to this New Continent, are almost all without defence, without horns, and without tails; their bodies and their limbs are unproportioned; and some, as the sluggish and crawling animals, &c. are of so

miserable a nature, that they scarcely have the faculties of moving or of eating; they drag on a languishing life in the solitude of a desert, and cannot subsist in the inhabited world, where man and powerful animals would have soon destroyed them.

The Tapir is of the size of a small cow, or zebu, but without horns, and with a short naked tail; the legs are short and thick, and the feet have small black hoofs. The body is thick and clumsy, and the back somewhat arched, and the hair is of a dusky or brownish colour. On the short thick neck is a kind of bristly mane, which, near the head, is an inch and a half in length. His head is of a tolerable size, with roundish erect ears, and small eyes, and the muzzle terminates in a kind of proboscis, which can be extended or contracted at the will of the animal. The latter it uses in feeding, to grasp its food and convey it to the mouth, in the same way that the rhinoceros applies its upper lip; and in this are also contained the organs of smell. He has ten incisive teeth, and ten grinders, in each jaw; a character which separates him entirely from the ox, and other ruminating animals. His skin is so thick and hard as to be almost impenetrable to a bullet; for which reason the Indians make shields of it.

The Tapir seldom stirs out but in the night, and delights in the water, where he oftener lives than upon land. He is chiefly to be found in marshes, and seldom goes far from the borders of rivers or lakes. He swims and dives with singular facility. When he is threatened, pursued, or wounded, he plunges into the water, and remains there till he has got to a great distance before he reappears.

These customs, which he has in common with the hippopotamus, have made some naturalists imagine him to be of the same species; but he differs as much from him in nature, as he is distant from him in climate. To be assured of this, there needs no more than to compare the description we have now recited, with that of the hippopotamus. Although the Tapir inhabits the water, he does not feed upon fish; and, although his mouth is armed with twenty sharp and incisive teeth, he is not carnivorous: he lives upon sugarcanes, grasses, the leaves of shrubs, and various kinds of fruit; and does not make use of what Nature has armed him with against other animals. He is of a mild and timid nature, and flies from every attack or danger: when, however, he is cut off from retreat, he makes a vigorous defence against dogs and men. Its usual attitude is that of sitting on its rump like a dog; and its voice is a kind of whistle. The flesh is wholesome food. It may be tamed, and is then very gentle and docile. This animal is commonly found in Brazil, Paraguay, Guiana, and in all the extent of South America, from the extremity of Chili to New Spain.

A species of Tapir, which has recently been discovered, is very common in the island of Sumatra and the forests of Malacca. Its body is of a dirty white, while the head, legs, and tail are of a deep black. This species has no mane, and its proboscis is from seven to eight inches long.

Among the numerous fossil remains of a former world are found fragments of Tapirs of enormous size. One of these extinct species, the Gigantic Tapir, must have been more than equal to the elephant in magnitude.

THE ZEBRA



Is, perhaps, the handsomest and most elegantly clothed of all quadrupeds. He has the shape and graces of the horse, the swiftness of the stag, and a striped robe of black and white alternately disposed with so much regularity and symmetry, that it seems as if Nature had made use of the rule and compass to paint it. These alternate bands of black and white are so much the more singular, as they are straight, parallel, and very exactly divided, like a striped stuff; and as they, in other parts, extend themselves not only over the body, but over the head, the thighs, the legs, and even the ears and the tail; so that, at a distance, this animal appears as if he was surrounded with little fillets, which some person had disposed, in a regular manner, over every part of the body. In the females, these bands are alternately black and white; in the male, they are brown and yellow, but always of a lively and brilliant mixture, upon a short, fine, and thick hair; the lustre of which still more increases the beauty of the colours. The Zebra is, in general, less than the horse, and larger than the ass; and, although it has often been compared to those two animals, and called the *Wild*

Horse, and the *Striped Ass*, it is a copy neither of the one nor the other, and might rather be called their model, if all was not equally original in Nature, and if every species had not an equal right to creation.

The Zebra is not the animal the ancients have indicated under the name *onagra*. There exists in the Levant, the eastern parts of Asia, and in the northern parts of Africa, a beautiful race of asses, who, like the finest horses, are natives of Arabia. This race differs from the common, by the size of the body, the slenderness of the legs, and the lustre of the hair; they are of a uniform, but commonly of a fine mouse colour, with a black cross upon the back and the shoulders; and sometimes they are of a bright gray colour, with a flaxen cross. The Zebra is also of a different climate from the *onagra*, and is only to be met with in the most eastern and the most southern parts of Africa, from Ethiopia to the Cape of Good Hope, and thence to Congo; it exists neither in Europe, Asia, nor America, nor even in all the northern parts of Africa: those which some travellers tell us they have seen at the Brazils have been transported thither from Africa; those which others are recounted to have seen in Persia, and in Turkey, have been brought from Ethiopia; and, in short, those that we have seen in Europe are almost all from the Cape of Good Hope. This point of Africa is their true climate, their native country, and where the Dutch have employed all their care to subject them and to render them tame, without having been hitherto able to succeed. That which we have seen, and which has served for the subject of our description, was very wild when he arrived at the royal menagerie in France; and he was never entirely tamed: nevertheless, he has been broken for the

saddle; but there are precautions necessary: two men held the bridle, while a third was upon him. His mouth is very hard; his ears so sensible, that he winces whenever any person goes to touch them. He was restive, like a vicious horse, and obstinate as a mule; but, perhaps, the wild horse and the onagra are not less intractable; and there is reason to believe, that if the Zebra was accustomed to obedience and tameness from his earliest years, he would become as mild as the ass and the horse, and might be substituted in their room.

The Zebra is chiefly found in the southern parts of Africa; often seen near the Cape of Good Hope; and a penalty of fifty rix-dollars is inflicted on any person who shoots one of them. Such of them as are caught alive are presented to the governor. Several have been brought to England, but, except in one instance, they have all displayed great wildness, and even ferocity. The exception was in that which was burnt some years ago at Exeter Change. It would allow young children to be put upon its back, and was once ridden from the Lyceum to Pimlico; but it was bred and reared in Portugal, from parents half reclaimed. In several other cases, Zebras have attempted to injure spectators, and have not even spared their keepers. The voice of this creature is thought to have a distant resemblance to the sound of a post horn.

THE ZEBRA OF THE PLAINS.

THE Zebra which we have just described is confined to the mountains; the subject of the present article inhabits the flat parts near the Cape. Till very recently, the difference between them was not accurately understood. "The ground colour of its whole

body (says Mr. Bennett) is white, interrupted by a regular series of broad black stripes extending from the back across the sides, with narrower and fainter ones intervening between each. Over the haunches



and shoulders these stripes form a kind of bifurcation, between the divisions of which there are a few transverse lines of the same colour; but these suddenly and abruptly cease, and are not continued on the legs, which are perfectly white. Along the back there is a narrow longitudinal line, bordered on each side with white. The mane is throughout broadly and deeply tipped with black, and is marked by a continuation of the transverse bands of the neck. The lines of the face are narrow and beautifully regular; from the centre of the forehead they radiate downwards over the eyes; along the front of the muzzle they are longitudinal, the outer ones having a curve outwards; and on the sides they form

broader transverse bands. From the confluence of these bands on the extremity of the muzzle, the nose, and the lower lip, those parts become of a nearly uniform blackish brown. The tail is white: there is no longitudinal ventral line: and a large black patch occupies the posterior part of the ear, near the tip. The hoofs are moderately large, deep in front, shallow behind, and much expanded at their margin."

The subject of the present article, which has now been about two years in the Menagerie, will suffer a boy to ride her about the yard, and is frequently allowed to run loose through the Tower, with a man by her side, whom she does not attempt to quit, except to run to the Canteen, where she is occasionally indulged with a draught of ale, of which she is particularly fond.



THE HIPPOPOTAMUS.

ALTHOUGH this animal has been celebrated from the earliest ages, it was, notwithstanding, but imperfectly known to the ancients. It was only towards the sixteenth century that we had some precise indications on the subject.

In comparing the descriptions which we have observed in different travellers, the Hippopotamus appears to be an animal whose body is longer and thicker than that of the rhinoceros; but his fore legs are much shorter. His head is short, and thick in



proportion to the body. He has no horns, neither on the nose, like the rhinoceros, nor on the head, like ruminating animals. His cry, when hurt, approaches as near to the neighing of the horse, as the bellowing of the buffalo; but his usual voice resembles the neighing of a horse, from which, however, he differs in every other respect; and this fact, we may presume, has been the sole reason for giving him the name of *Hippopotamus*, or *River Horse*; as the howling of the lynx, which resembles that of the wolf, has occasioned him to be called the *stag-like wolf*. The incisive teeth of the Hippopotamus, and especially the two canine teeth of the lower jaw, are very long, very strong, and of so hard a substance, that they strike fire with a piece of iron. This is probably what has given rise to the fable of the ancients, who have reported that the Hippopotamus vomited fire. These canine teeth of this animal are of white, so clear and so hard, that they are preferable to ivory, for making artificial teeth. The incisive

teeth of the Hippopotamus, especially those of the lower jaw, are very long, cylindrical, and furrowed. The canine teeth, which are also very long, are crooked, prismatic, and sharp, like the tusks of a boar. The molares are square, or rather longer on one side than the other, nearly like the grinders of a man, and so thick, that a single one weighs more than three pounds. The largest of the incisive, or the canine teeth, are twelve, and even sixteen inches in length, and sometimes weigh twelve or thirteen pounds each. The skin is in some parts two inches thick; and the Africans cut it into whip thongs, which, in consequence of their softness and pliability, they prefer to those procured from the rhinoceros hide.

The male Hippopotamus is about six feet nine inches long, from the extremity of the muzzle to the beginning of the tail; fifteen feet in circumference, and six feet and a half in height. His legs are about two feet ten inches long; the length of the head, three feet and a half, and eight feet and a half in circumference; and the width of the mouth, two feet four inches. It, however, sometimes acquires much greater magnitude. In the south of Africa, M. le Vaillant killed one which measured ten feet seven inches in length, and about nine feet in circumference.

Thus powerfully armed, with a prodigious strength of body, he might render himself formidable to every animal; but he is naturally gentle, and appears never to be the aggressor, except when annoyed or wounded. It has been erroneously stated, that he commonly moves slowly on the land, but, on the contrary, when he has been injured, he has been known to pursue persons for several hours, who

escaped with great difficulty. He swims quicker than he runs, pursues the fish, and makes them his prey. Three or four of them are often seen at the bottom of a river, near some cataract, forming a kind of line, and seizing upon such fish as are forced down by the violence of the stream. He delights much in the water, and stays there as willingly as upon land; notwithstanding which, he has no membranes between his toes, like the beaver and otter; and it is plain, that the great ease with which he swims, is only owing to the great capacity of his body, which only makes bulk for bulk, and is nearly of an equal weight with the water. Besides, he remains a long time under water, and walks at the bottom as well he does in the open air. When he quits it to graze upon land, he eats sugarcanes, rushes, millet, rice, roots, &c. of which he consumes and destroys a great quantity, and does much injury to cultivated lands; but, as he is more timid upon earth than in the water, he is very easily driven away; and, as his legs are short, he cannot save himself well by flight, if he is far from any water. His resource when he finds himself in danger, is to plunge himself into the water, and go a great distance before he reappears. He commonly retreats from his pursuers; but if he is wounded, he becomes irritated, and immediately facing about with great fury, rushes against the boats, seizes them with his teeth, often tears pieces out of them, and sometimes sinks them under water. "I have seen," says a traveller, "an Hippopotamus open his mouth, fix one tooth on the side of a boat, and another to the second plank under the keel; that is, four feet distant from each other, pierce the side through and through, and in this manner sink the boat to the

bottom. I have seen another, lying by the side of the seashore, upon which the waves had driven a shallop heavily laden, which remained upon his back dry, and which was again washed back by another wave, without the animal appearing to have received the least injury. When the Negroes go a fishing in their canoes, and meet with an Hippopotamus, they throw fish to him; and then he passes on, without disturbing their fishery any more. He injures most when he can rest himself against the earth; but, when he floats in the water, he can only bite. Once, when our shallop was near shore, I saw one of them get underneath it, lift it above water upon his back, and upset it with six men who were in it; but fortunately they received no hurt."

"We dare not," says another traveller, "irritate the Hippopotamus in the water, since an adventure happened, which was near proving fatal to three men. They were going in a small canoe, to kill one in a river where there was about eight or ten feet water. After they had discovered him walking at the bottom, according to his custom, they wounded him with a long lance, which so greatly enraged him, that he rose immediately to the surface of the water, regarded them with a terrible look, opened his mouth, and, at one bite, took a great piece out of the side of the canoe, and had very nearly overturned it; but he replunged, almost directly, to the bottom of the water."

These animals are only numerous in some parts of the world: it even appears, that the species is confined to particular climates, and seldom to be met with but in the rivers of Africa. Dutch travellers say that they bear three or four young ones;

but this appears very suspicious; as the Hippopotamus is of an enormous bulk, he is in the class of the elephant, the rhinoceros, the whale, and all other great animals, who bring forth but one; and this analogy appears more certain than all the testimonies that they have exhibited. The female brings forth her young upon land, and the calf, at the instant when it comes into the world, will fly to the water for shelter if pursued; a circumstance which Thunberg notices as a remarkable instance of pure instinct.

THE ELK AND THE REIN-DEER.

ALTHOUGH the Elk and the Rein-deer are two animals of a different species, we have thought proper to unite them, because it is scarcely possible to write the history of the one, without borrowing a great deal from the other.

It appears by positive testimonies, that the Rein-



deer formerly existed in France, at least in the high mountains, such as the Pyrenean, and, since that time, has been destroyed like the stags, who were

heretofore common in that country¹. It is certain, that the Rein-deer is now actually to be found only in the most northern countries; we also know, that the climate of France was formerly much more damp and cold, occasioned by the number of woods and morasses, which are no longer to be seen. Gaul, under the same latitude as Canada, was, two thousand years ago, what Canada is at this present time; that is, a climate cold enough for those animals to live in.

The Elk and the Rein-deer, then, are only found in the northern countries; the Elk on this, and the Rein-deer on the other side of the polar circle in Europe and in Asia. We find them in America in the highest latitudes, because the cold is greater there than in Europe. The Rein-deer can bear even the most excessive cold. He is found in Spitsbergen; he is common in Greenland, and in the most northern parts of Lapland: thus also, in the most northern parts of Asia, the Elk does not approach so near the pole; he inhabits Norway, Sweden, Poland, Russia, and all the provinces of Siberia and Tartary, with the north of China. We again find him by the name of *orignal*, and the Rein-deer under that of *caribou*, in Canada, and in all the northern parts of America.

We may form a sufficiently just idea of the Elk and the Rein-deer, by comparing them with the stag. The Elk is larger, stronger, and stands more

¹ This assertion has recently been discovered to be incorrect. It is founded on a misprint in a Treatise on Hunting, by Gaston de Foix. The printed copies say that the writer had seen the Rein-deer in "*Maurienne and Pseudève*," that is, in Savoy and Bearn; but the MS., which M. Cuvier has since consulted, says "*Nourvège and Xuedène*," which means Norway and Sweden.

erect upon his legs; his neck is shorter, his hair longer, and his antlers wider and heavier than those of the stag; the Rein-deer is shorter and more squat; his legs are shorter and thicker, and his feet wider; the hair very thickly furnished, and his antlers much longer, and divided into a greater number of branches, with flat terminations; while those of the Elk are only (if the expression is allowed) cut or broached at the edges; both have long hair under the neck, and both have short tails, and ears much longer than the stag; they do not leap or bound like the roe-bucks; but their pace is a kind of trot, so easy and quick, that they go over almost as much ground, in the same time as the stags do, without being so much fatigued; for they can trot in this manner for a day or two. The Rein-deer lives upon the mountains; the stag only dwells in low lands and damp forests; both go in herds, like the stags, and both can be easily tamed, but the Rein-deer with greater ease than the Elk; the last, like the stag, has not lost his liberty, while the Rein-deer is become domestic among the enlightened part of mankind. The Laplanders have no other beast. In this icy climate, which only receives the oblique rays of the sun, where there is a season of night as well as day, where the snow covers the earth from the beginning of autumn to the end of spring, and where the verdure of the summer consists in the bramble, juniper, and moss, could man form any idea but of famine? The horse, the ox, the sheep, all our useful animals, find no subsistence there, nor can resist the rigour of the cold: he has been obliged to search among the inhabitants of the forest, for the least wild and most profitable animals. The Laplanders have done what we our-

selves should do, if we were to lose our cattle: we should then be obliged to tame the stags and the roe-bucks of the forests, to supply their place; and I am persuaded we should gain our point, and we should presently learn to draw as much utility from them as the Laplanders do from the Rein-deer. We ought to be sensible, by this example, how far Nature has extended her liberality towards us. We do not make use of all the riches which she offers us: the fund is much more immense than we imagine. She has bestowed on us the horse, the ox, the sheep, and all our other domestic animals, to serve us, to feed us, and to clothe us; and she has, besides, species in reserve, which would be able to supply this defect, and which would only require us to subject them, and to make them useful to our wants. Man does not sufficiently know what Nature can do, nor what can be done with her. Instead of seeking for what he does not know, he likes better to abuse her in what he does know.

In comparing the advantages which the Laplanders derive from the tame Rein-deer, with those which we derive from our domestic animals, we shall see that this animal is worth two or three of them: he is used, as horses are, to draw sledges and other carriages; he travels with great speed and swiftness; he easily goes a hundred miles a day, and runs with as much certainty upon frozen snow as upon the mossy down. The female affords milk more substantial, and more nourishing than that of the cow; the flesh is very good to eat; his coat makes an excellent fur; and his dressed hide becomes a very supple and very durable leather. Spoons are also made of his bones, bowstrings and thread of his tendons, and glue is manufactured

from his horns. Thus the Rein-deer alone affords all that we derive from the horse, the ox, and the sheep.

With from three to five hundred Deer, a Laplander can live in tolerable comfort; with two hundred he may, by management, contrive to get on; but with a hundred his subsistence is precarious; and with only fifty, he must be content to be the partner, or rather servant, of some more fortunate individual.

The antlers of the Rein-deer are larger, more extended, and divided into a greater number of branches than those of the stag. His food, in the winter season, is a white moss (the *lichen rangeferinus*), which he finds under the snow, and which he ploughs up with his horns, or digs up with his feet. When the snow is too deep for them to obtain this article, they resort to another lichen that hangs on pine trees; and in severe seasons the boors often cut down some thousands of these trees to furnish subsistence to their herds.

In summer, he lives upon the buds and leaves of trees, rather than herbs, which his forward-spreading antlers will not permit him to browse on with facility. He runs upon the snow, and sinks but little, on account of his broad feet. These animals are mild; and they bring them up in herds, which turns out greatly to the profit of their keepers. The richest Laplanders have herds of four or five hundred head of Rein-deer, and the poor have ten or twelve. They lead them to pasture, and relead them to the stable, or shut them up in parks during the night, to shelter them from the outrages of the wolves. If they attempt to change their climate, they die in a short time. Formerly Steno, prince of Sweden, sent six

to Frederick, duke of Holstein ; and, of later date, in 1533, Gustavus, king of Sweden, had ten brought over to Prussia, both males and females : all perished, without producing any young, either in a domestic or in a free state. Many fruitless attempts have been made to introduce them into England. There is, however, at present in the Zoological Gardens one specimen, which was placed there in 1828, and appears to be still in a thriving condition.

There are both wild and tame Rein-deer in Lapland. In the time the heat is upon the tame females, they sometimes let them loose, to seek the wild males ; and, as these wild males are more robust, and stronger than the tame, the issues of this mixture are preferred for harness. These Rein-deer are not so gentle as the others ; for they not only sometimes refuse to obey those who guide them, but they often turn furiously upon them, and attack them with their feet, so that there is no other resource than to cover themselves from their rage by the sledge, until the fury of the beast is subsided. This sledge is so light, that they can easily manage it, and cover themselves with it. The bottom of it is lined with the skins of young Rein-deers ; the hairy side is turned against the snow, so that the sledge glides easily forwards, and recoils less on the mountains. The harness of the Rein-deer is only a thong of the hide, with the hairs remaining on it, round the neck, whence it descends towards the breast, passes under the belly, between the legs, and is fastened to a hole which is in the fore part of the sledge. The Laplander has only a single cord by which to guide the animal, and which he throws indifferently upon the back of the beast, sometimes on one side, and sometimes on the other, according as he would direct

him to the right or to the left. They can travel ten miles an hour; and it is not uncommon for them to make journeys of a hundred and fifty miles in nineteen hours; at their utmost speed, and for a short time, they can accomplish nearly twenty miles within the hour; but the quicker the method of travelling is, the more it is inconvenient; a person must be well accustomed to it, and travel often, to be able to direct the sledge, and prevent it from turning over. They can draw three hundred pounds, but the Laplanders usually limit the burthen to two hundred and forty pounds.

The Rein-deers have outwardly many things in common with the stags; and the formation of the interior parts is the same. The Rein-deer sheds his antlers every year like the stag, and, like him, is very good venison. The females, both of the one and of the other species, go eight months with young, and produce but one at a birth. The young Rein-deer follows his mother during the first two or three years, and does not attain his growth till about the age of four or five. It is at this age that they begin to dress and exercise them for labour.

The Rein-deers are all very spirited, and very difficult to manage; they therefore make use only of those which are castrated, among which they choose the liveliest and the swiftest to draw their sledges, and the more heavy to travel with their provision and baggage at a slower pace. These animals are troubled with an insect, called the gad-fly, during the summer season, which, burrowing under their skins the preceding summer, deposit their eggs; so that the skin of the Rein-deer is often so filled with small holes, that an incurable disorder is brought on. So formidable are the attacks of these insects,

that in June, July, and August, the Laplander is compelled to migrate with his Deer from the forests to the mountains; without which precaution he would run the risk of losing the major part of his herd.

The herds of this species require a great deal of care. The Rein-deer are subject to elope, and voluntarily renew their natural liberty: they must be closely attended, and narrowly watched; they cannot lead them to pasture but in open places; and, in case the herd are numerous, they have need of many persons to guard them, to recall them, and to run after them, if they stray. They are all marked, that they may be known again; for it often happens that they stray in the woods, or mix among another herd. In short, the Laplanders are continually occupied in the care of their Rein-deer, which constitute all their wealth.

The Rein-deer is the only animal of this species the female of which has horns like the male; and the only one also which sheds his horns, and renews them again, notwithstanding his castration; for, in stags, fallow-deer, and roe-bucks, who have undergone this operation, the head of the animal remains always in the same state in which it was the moment it was castrated.

Another singularity, which we must not omit, and which is common to the Rein-deer and the Elk, is, that when these animals run, or quicken their pace, their hoofs, at every step, make a crackling noise, as if all the joints of their legs were disjuncting. It is this noise, or perhaps the scent, which informs the wolves of their approach, who run out to meet and seize them; and, if the wolves are many in number, they very often conquer. The Rein-deer

is able to defend himself against a single wolf, not, as may be imagined, with his horns (for they are rather of a disservice to him than of use), but with his fore feet, which are very strong, and with which he strikes with such force, as to stun the wolf, or drive him away; after which he flies with such speed, as to be no longer in any danger of being overtaken: but he finds a more dangerous, though a less frequent and less numerous enemy than the wolf, in the *rosomack*, or *glutton*.

The Elk and the Rein-deer are both among the number of ruminating animals.

A tame Rein-deer lives only to the age of fifteen or sixteen years; but it is to be presumed, that the life of the wild Rein-deer is of much longer duration. This animal, being four years before he arrives at his full growth, must live twenty-eight or thirty years, when he is in his natural state. The Laplanders hunt the wild Rein-deers by different methods, according to the difference of seasons. In rutting time, they make use of a tame female to attract them. They kill them by the musket, or with the bow and arrow, and draw the bow with such strength, that notwithstanding the thickness of the hair, and the firmness of the hide, they very often kill one of these beasts with a single arrow.

The mode in which the Dog-rib Indians kill the Rein-deer is curious. The hunters go in pairs, the foremost man carrying in one hand the horns and part of the skin of the head of a deer, and in the other a small bundle of twigs, against which he, from time to time, rubs the horns, imitating the gestures peculiar to the animal. His comrade follows, treading exactly in his footsteps, and holding the guns of both in a horizontal position, so that the

muzzles project under the arms of him who carries the head. Both hunters have a fillet of white skin round their foreheads, and the foremost has a strip of the same round his wrists. They approach the herd by degrees, raising their legs very slowly, but setting them down somewhat suddenly, after the manner of a deer, and always taking care to lift their right or left foot simultaneously. If any of the herd leave off feeding to gaze upon this extraordinary phenomenon, it instantly stops, and the head begins to play its part by licking its shoulders, and performing other necessary movements. In this way the hunters attain the very centre of the herd, without exciting suspicion, and have leisure to single out the fattest. The hindmost man then pushes forward his comrade's gun, the head is dropped, and they both fire nearly at the same instant. The deer scamper off, the hunters trot after them: in a short time the poor animals halt, to ascertain the cause of their terror; their foes stop at the same moment, and, having loaded as they ran, greet the gazer with a second fatal discharge. The consternation of the deer increases; they run to and fro in the utmost confusion, and sometimes a great part of the herd is destroyed within the space of a few hundred yards.

In general, the ELK is a much larger and a much stronger animal than the Stag and the Rein-deer. It is usually larger, both in height and bulk, than the horse. His hair is so rough, and his hide so hard, that a musket ball cannot penetrate it. His legs are very firm, with so much motion and strength, especially in the fore feet, that he can kill a man by one single stroke of his foot; nevertheless, he is

hunted nearly as we hunt the stag; that is, with men and dogs. It is affirmed, that, when he is touched with the lance, or pursued, it happens that he often falls down all at once, without either being pulled down or wounded. From this circumstance, some have presumed he was subject to the epilepsy; and on this presumption, which is not well founded (since fear alone might be able to produce the same effect), this absurd consequence has been drawn, that his hoof is a remedy for the epilepsy, and even preserves persons from it. His pace, when disturbed, is a rapid kind of trot. In walking he lifts his feet very high, and can, without difficulty, step over a gate that is five feet high.



As there are very few people in the northern parts of America, all animals, and particularly Elks, are in greater numbers than in the north of Europe. The savages are not ignorant of the art of hunting and taking them; they follow them by the track of their feet, very often for many days together, and by constancy and dexterity, they often gain their end. Their method of hunting them in winter is particularly singular:—"They make use of rackets,

or snow-shoes," says Denys, "by means of which they walk upon the snow without sinking in. The *Original* does not cover a deal of ground, because of his sinking in the snow, which greatly fatigues him; he eats nothing but the young shoots of the trees during the whole year; therefore, where the savages find the trees eaten, they presently meet with the beasts, which they approach very easily. They throw a dart at them, which is a large club, at the end of which is fastened a large pointed bone, which pierces like a sword. If there are many *Originals* in one troop, they drive them away; for then, the *Originals*, placing themselves in a rank, describe a large circle of a mile and a half, or two miles, and sometimes more. They harden the snow so much with their feet in turning round, that they no longer sink in. The savages in America wait for their passing them, and then throw their darts, and kill them."

None of the deer tribe are so easily tamed as this animal, which is naturally gentle; and when he is once domesticated he manifests great affection for his master. In the state of New York, a successful attempt has been made to employ Elks in the labours of agriculture. The Indians believe that there exists a gigantic Elk, which can walk without difficulty in eight feet of snow, is invulnerable to all weapons, and has an arm growing out of its shoulder, which it uses as we do ours. They consider him as the king of the Elks, and imagine that he is attended by numerous courtiers. With them the Elk is also an animal of good omen, and to dream of him often is looked upon as an indication of long life.

THE MALAYAN RUSA DEER.



THIS animal, to which his keepers give the name of the Samboo Deer, is a native of India and of the Indian islands. "He is (says Mr. Bennett) dark cinereous brown above, nearly black on the throat and breast, and light fawn, intermixed with dirty white, on the inside of the limbs. His eyes are surrounded by a fawn coloured disc, and patches of the same colour occupy the fore knees, and a space above each of the hoofs in front. His nose, which is black, is enveloped in an extensive muzzle; his ears are nearly naked on the inside, and marked by a patch of dirty white at the base externally; and his mane, which spreads downwards over the neck

and throat, is remarkably thick and heavy. His tail is black above, and light fawn beneath; and a disc of the latter colour occupies the posterior part of the buttocks, having on each side a blackish line which separates it from the lighter tinge of the inside of the thighs. His horns, when properly grown, consist of a broad burr, from which the pointed basal antler rises almost perpendicularly to the extent of nine or ten inches; of a stem, which is first directed outwards, and then forms a bold curve inwards; and of a snag, or second antler of smaller size, arising from the stem near its extremity on the posterior and internal side, and forming with it a terminal fork, the branch, however, being shorter than the stem, and not exceeding five or six inches in length. The entire length of the horns is about two feet; they are of a dark colour, very strong, and deeply furrowed throughout.

“The foregoing description of the horns, it should be observed, is taken from those of the year before last, which were of the genuine or normal form. Those of the last year, which are represented in the cut prefixed, were, from some cause or other, remarkably different, that of the right side exhibiting a singular monstrosity in the production of additional branches of irregular form. Whether this was the effect of disease, or of advancing age, or whether it arose solely from some accidental and temporary cause, will probably be determined by the growth of the present year, which is not yet sufficiently advanced to enable us to ascertain the probable form.”

When first brought to England, the individual which is represented in the wood cut ranged at

liberty, with another of the same species, in the great park at Windsor. So violent, however, were their quarrels, that it was found necessary to separate them, and this was consigned to the Tower. He is now exceedingly tame.



CHAP. XVIII.

Of the Ibex, the Chamois, and other Goats...The Saiga...The Antelope, or Gazelle...Of the Bezoar Stone...Of the Bubalus, or Stag-like Antelope...The Condoma, or Striped Antelope...The Guib, or Harnessed Antelope...The Grimm...The Indian Antelope...The Chevrotins...The Mazame, and Tememazame...The Coudous...The Gnu...The Nyl-ghau...The Musk...The Production of that Perfume.

THE IBEX, THE CHAMOIS, AND OTHER GOATS.

ALTHOUGH it appears that the Greeks were acquainted with the Ibex and the Chamois, yet they have not described them by any particular denomination, nor even by characters sufficiently exact for them to be distinguished by: they have only indicated them

under the general name of *Wild Goats*¹. They probably presumed, that these animals were of the same species as the domestic Goats, as they have not given them proper names, as they have done to every other different species of animals; on the contrary, all our modern naturalists have regarded the Ibex and the Chamois as two real and distinct species, and both of them different from that of our Goats.



The male Ibex differs from the Chamois, by the length, the thickness, and the form of the horns; it is also much more bulky, vigorous, and strong. The female Ibex has horns different from the male; they are also much smaller, and nearly resembling those of the Chamois. In other respects, these two animals have the same customs, the same manners, and the same country; only the Ibex, as he is endowed with more agility, and is stronger than the Chamois, climbs to the summit of the highest mountains; while the Chamois only lives in the second

¹ Later naturalists have formed the antelopes into a separate genus, intermediate between the goats and the deer. The Chamois is the *Antilope Rupicapra* of Linnaeus and Pallas. The Ibex is a goat, the *Capra Ibex* of Linnaeus.

stage; but neither the one nor the other is to be found in the plains; both make their way on the snow; both ascend precipices by bounding from rock to rock; both are covered with a firm and a solid skin, and clothed, in winter, with a double fur, with very rough hair outwardly, and a finer and thicker hair underneath; both of them have a black stripe on the back, and both likewise have the tail nearly of the same size. The number of exterior resemblances is so great, in comparison with the differences, and the conformity of the exterior parts is so complete, that if we reason in consequence of these accounts, we might be led to believe, that these two animals are not really of a different species, but that they are simply only constant varieties of one and the same species. The Ibex, as well as the Chamois, when taken young and brought up with domestic Goats, are easily tamed; and, accustomed to domesticity, imbibe the same manners, herd together, return to the stable, and probably procreate together. I avow, however, that this fact, the most important of all, and which alone would decide the question, is not known to us.

Let us, nevertheless, take a view of the opposite reasons. The species of the Ibex and the Chamois both subsist in a state of nature, and both are constantly distinct. The Chamois sometimes comes, of his own accord, and joins the stock of our domestic sheep. The Ibex never joins them, at least not before it is tamed. The Ibex and the he Goat have a very long beard, and the Chamois has none at all; the male and female Chamois have very small horns; those of the male Ibex are so thick and so long, that they would scarcely be imagined to belong to an animal of its size. The horns of the male Ibex are

not very different from those of the Goat; as the female, however, approaches our Goat, and even the Chamois, in the size and smallness of the horns, may we not conclude, that these animals, the Chamois and the domestic Goat, are, in fact, but one and the same species, in which the nature of the females is invariable and alike, while the males are subject to varieties, which render them different one from the other?

The Ibex, or wild Goat, entirely and exactly resembles the domestic Goat, in the conformation, the organization, and the natural and physical habits; it only varies by two slight differences; the one externally, and the other internally. The horns of the Ibex are longer than those of the he Goat; they have two longitudinal ridges; those of the Goat have but one; they have also thick knots, or transverse tubercles, which mark the number of years of their growth, while those of the Goats are only marked with transverse strokes. The Ibex runs as fast as the stag, and leaps lighter than the roebuck. All Goats are liable to vertigos, which are common to them with the Ibex and the Chamois, as well as the inclination to climb up rocks; and still another custom, which is that of continually licking the stones, especially those which are strongly impregnated with saltpetre, or common salt. In the Alps there are rocks which have been hollowed by the tongue of the Chamois. These are commonly soft and calcinable stones, in which, as is well known, there is always a certain quantity of nitre. These natural agreements, these conformable customs, among other circumstances, appear to me to be sufficient indexes of the identity of species in these animals.

The Ibex and the Chamois, one of which I look upon as the male, and the other as the female stock of the Goat species, are only found, like the moufflon, who is the source of the sheep species, in deserts, and upon the most craggy places of the highest mountains: the Alps, the Pyrenees, the mountains of Greece, and those of the islands of the Archipelago, are almost the only places where the Ibex and the Chamois are to be found. But, although both these animals dislike heat, and only inhabit the region of snow and ice, yet they have also an aversion to excessive cold. In the summer, they choose the north of the mountains; in winter, they descend into the valleys; neither the one nor the other can support themselves on their legs upon the ice, when it is smooth; but, if there be the least inequalities on its surface, they bound along with security.

The chase of these animals is very troublesome, and dogs are entirely useless in it; it is likewise very dangerous to men; for sometimes the animal, finding itself hard pushed, turns and strikes the hunter, and precipitates him from the rock, unless he has time to lie down, and let the creature bound over him. If the pursuit be continued, this animal will throw himself down the steepest declivities, and fall upon his horns in such a manner as to escape unhurt.

M. Perond, surveyor of the crystal mines in the Alps, having brought over a living Chamois, has given us the following information on the natural habits of this animal:—"The Chamois is a wild animal, but easily tamed, and very docile. It is about the size of a domestic goat, and resembles one in many respects. It is most agreeably lively, and active beyond expression. Its hair is short,

like that of the doe ; in spring it is of an ash colour, and in winter of a blackish brown. The large males keep themselves apart from the rest, except in their rutting time. The time of their coupling is from



the beginning of October to the end of November ; and they bring forth in April and March. The young follows the dam for about five months, and sometimes longer, if the hunters, or the wolves, do not separate them. It is asserted that they live between twenty and thirty years. The flesh of the Chamois is good to eat ; and some of the fattest afford ten or twelve pounds of suet, which far surpasses that of the goat in solidity and goodness.

The cry of the Chamois is not distinctly known ; if it has any, it is but faint, and resembling that of a hoarse goat ; it is by this cry it calls its young ; but, when they are frightened, or are in danger of any enemy, or some other object not perfectly known to them, they warn the rest of the flock by a kind of hissing noise. It is observable, that the Chamois has a very penetrating eye, and its hearing and smell are not less distinguishing. When it finds an enemy near, it stops for a moment, and then in an instant flies off with the utmost speed. When the

wind is in its favour, it can smell a human creature for more than half a mile distance. When this happens, therefore, and it cannot see its enemy, but only discovers his approach by the scent, it begins the hissing noise with such force, that the rocks and the forests reecho with the sound. This hissing continues as long as the breath will permit. In the beginning it is very shrill, and deeper towards the close. This animal then rests a moment, after this alarm, to inspect farther into its danger: and, having confirmed the reality of its suspicion, it commences to hiss by intervals, till it has spread the alarm to a great distance. During this time, it is in the most violent agitation, strikes the ground forcibly with its fore foot, and sometimes with both; it bounds from rock to rock; it turns, and looks round; it turns to the edge of the precipice, and when it has obtained a sight of the enemy, flies from it with all its speed. The hissing of the male is much more acute than that of the female; it is performed through the nostrils, and is, properly, no more than a very strong breath, forced through the nostrils by fixing the tongue to the palate, keeping the teeth nearly shut, the lips open, and a little lengthened. Their agility is wonderful, as they will throw themselves down, across a rock, which is nearly perpendicular, and twenty or thirty feet in height, without a single prop to support their feet. Their motion has, indeed, rather the appearance of flying than of leaping. The Chamois feeds upon the best herbage, and chooses the most delicate parts of plants, flowers, and the most tender buds. It is not less delicate with regard to several aromatic herbs, which grow upon the sides of the Alps. It drinks but very little, while it feeds upon the succulent herbage, and

ruminates, like the goat, in the intervals of feeding. Its head is crowned with two small horns, of about half a foot long, of a beautiful black, and rising from the forehead, almost betwixt the eyes. These horns are often made use of for the heads of canes. The hides of these animals are very strong and supple, and good warm waistcoats and gloves are made of them.

The hunting of the Chamois is very laborious, and extremely difficult and perilous. It is thus admirably described by Saussure:—"The Chamois hunter sets out upon his expedition of fatigue and danger generally in the night. His object is to find himself at the break of day in the most elevated pastures, where the Chamois comes to feed before the flocks shall have arrived there. The Chamois feeds only at morning and evening. When the hunter has nearly reached the spot where he expects to find his prey, he reconnoitres with a telescope. If he finds not the Chamois, he mounts still higher; but if he discovers him, he endeavours to climb above him and to get nearer, by passing round some ravine, or gliding behind some eminence or rock. When he is near enough to distinguish the horns of the animal (which are small, round, pointed, and bent backward like a hook, as in the wood cut), he rests his rifle upon a rock, and takes his aim with great coolness. He rarely misses. This rifle is often double-barrelled. If the Chamois falls, the hunter runs to his prey—makes sure of him by cutting the hamstrings—and applies himself to consider by what way he may best regain his village. If the route is very difficult, he contents himself with skinning the Chamois; but if the way is at all practicable with a load, he throws the animal over

his shoulder, and bears it home to his family, undaunted by the distance he has to go, and the precipices he has to cross.

“But when, as is more frequently the case, the vigilant animal perceives the hunter, he flies with the greatest swiftness into the glaciers, leaping with incredible speed over the frozen snows and pointed rocks. It is particularly difficult to approach the Chamois when there are many together. The sentinel, who is placed on the point of some rock which commands all the avenues of their pasturage, makes the sharp hissing sound already mentioned, at the sound of which all the rest run towards him, to judge for themselves of the nature of the danger. If they discover a beast of prey or a hunter, the most experienced puts himself at their head; and they bound along, one after the other, into the most inaccessible places.

“It is then that the labours of the hunter commence; for then, carried away by the excitement, he knows no danger. He crosses the snows, without thinking of the abysses which they may cover; he plunges into the most dangerous passes of the mountains; he climbs up, he leaps from rock to rock, without considering how he can return. The night often finds him in the heat of the pursuit; but he does not give it up for this obstacle. He considers that the Chamois will stop during the darkness, as well as himself, and that on the morrow he may again reach them. He passes then the night—not at the foot of a tree, nor in a cave covered with verdure, as does the hunter of the plain—but upon a naked rock, or upon a heap of rough stones, without any sort of shelter. He is alone, without fire, without light; but he takes from his bag a bit of

cheese and some of the barley bread, which is his ordinary food—bread so hard that he is obliged to break it between two stones, or to cleave it with the axe which he always carries with him to cut steps which shall serve for his ladder up the rocks of ice. His frugal meal being soon ended, he puts a stone under his head, and is presently asleep, dreaming of the way the Chamois has taken. He is awakened by the freshness of the morning air; he rises, pierced through with cold; he measures with his eye the precipices he must yet climb to reach the Chamois; he drinks a little brandy (of which he always carries a small provision), throws his bag across his shoulder, and again rushes forward to encounter new dangers. These daring and persevering hunters often remain whole days in the dreariest solitudes of the glaciers of Chamouni; and, during this time, their families, and, above all, their unhappy wives, feel the keenest alarm for their safety.

“And yet, with the full knowledge of the dangers to be encountered, the chase of the Chamois is the object of an insurmountable passion. Saussure knew a handsome young man, of the district of Chamouni, who was about to be married; and the adventurous hunter thus addressed the naturalist: “My grandfather was killed in the chase of the Chamois; my father was killed also; and I am so certain that I shall be killed myself, that I call this bag, which I always carry hunting, my winding-sheet. I am sure that I shall have no other; and yet, if you were to offer to make my fortune, upon the condition that I should renounce the chase of the Chamois, I should refuse your kindness.” Saussure adds, that he went several journeys in the Alps with this young man; that he possessed astonishing

skill and strength ; but that his temerity was greater than either ; and that, two years afterwards, he met the fate which he had anticipated, by his foot failing on the brink of a precipice to which he had leaped.

“The very few individuals of those who grow old in this trade bear on their countenances the traces of the life which they have led. They have a wild, and somewhat haggard and desperate air, by which they may be recognised in the midst of a crowd. Many of the superstitious peasants believe that they are sorcerers ; that they have commerce with the evil spirit ; and that it is he that throws them over the precipices.”

THE SAIGA.

THERE is a sort of wild goat found in Hungary, in Tartary, and in South Siberia, which the Russians call *Seigak*, or *Saiga*. It bears a resemblance to the domestic goat, in the shape of its body, and in its hair ; but, by the shape of the horns, and the defect of the beard, it approaches nearer the *gazelle*, and appears to be a mixture of these two animals.

The Saiga, by its natural habits, resembles more the gazelle than the ibex and the chamois ; for it does not delight in mountainous countries, but lives upon the hills and on the plains. It is very agile, very swift, and its flesh is much better eating than that of the ibex, or any other wild or tame goat.

This animal, which was imperfectly known to M. Buffon, is the *Scythian Antelope* of Pennant, the *Antelope Saiga* of Linnæus. It is of a gray yellowish colour, and about the size of a fallow-deer. Numbers of them are to be found in the dreary and extensive deserts about Mount Caucasus, the Caspian Sea,

and in Siberia. In autumn they collect together, and migrate towards the south; in spring they separate, and return to the north. Being exceedingly fond of salt, they confine themselves chiefly to such countries as have salt springs. Like the chamois, one of their herd acts as sentinel when the flock rests, and when he is tired he is relieved by another.

THE GAZELLE, OR ANTELOPE.



THERE have been thirteen species, or, at least, thirteen very distinct varieties, noted of these animals². In this uncertainty, in knowing whether they are only varieties, or in fact really different species, we have thought proper to put them all together, assigning to each of them a particular name. The first is the common *Gazelle*, found in Syria, in Mesopotamia, and in all the other provinces of the Levant, as well as in Barbary and in all the northern parts of Africa. The horns of this animal are about a foot long, entirely annulated at the base, which lessen into half rings towards the extremity; they are not only sur-

² The number of species of this genus is now increased to fifty-two.

rounded with these rings, but also longitudinally furrowed by small streaks. The Gazelles in general, and this tribe in particular, greatly resemble the roebuck, in the proportions of the body, its natural functions, its swiftness, and the brightness and beauty of its eyes. These resemblances would tempt us to think that, as the roebuck does not exist where the Gazelle does, the latter was only a degeneration of the first; or, that the roebuck is only a Gazelle, whose nature is altered by the influence of the climate, and by the effect of the different food, did not the Gazelle differ from the roebuck in the nature and fashion of its horns; those of the roebuck, which may be said to be solid, fall off, and are renewed every year, like those of the stag; on the contrary, the horns of the Gazelle are hollow and permanent, like those of the goat: the roebuck has also no gall-bladder, which is to be found in the Gazelle, as well as in the goat: on the other hand, the Gazelles have, in common with the roebuck, deep pits under the eyes, and resemble it still more in the colour and quality of the hair in the bunches upon their legs, which only differ in being upon the fore legs of the Gazelle, and upon the hinder legs of the roebuck. The Gazelles, therefore, seem to be of a middle nature between the two animals; but when we consider that the roebuck is an animal which is to be found in both continents, and that the goats, on the contrary, as well as the Gazelles, do not exist in the New World, we shall easily perceive that these two species, the goat and the Gazelle, are more nearly related to each other than they are to the roebuck.

The second Gazelle is an animal found in Senegal, and is called the *Kevel*. It is something less than

the former, and nearly of the size of a small roebuck; it differs also in its eyes, which are much larger; and its horns, instead of being round, are flatted on the sides, as well in the male as in the female; in other respects, the Kevel entirely resembles the Gazelle.

The third animal is called the *Corin*, the name it bears in Senegal. It greatly resembles the Gazelle and the Kevel, but is still less than either; its horns also are much smaller and smother than those of the other two; and the annular prominences belonging to this kind are scarcely discernible.

In the Royal Cabinet of France, there are skins of these three different Gazelles; besides which, is a horn which bears a great resemblance to those of the Gazelle and Kevel, and only differs from them in being much thicker. Its thickness and length seem to indicate a much larger animal than the common Gazelle; and it appears to us to belong to a Gazelle which the Turks call *Tzeran*, and the Persians *Atur*. This animal, according to Olearius, in some measure resembles our deer, except that it is rather of a red colour than brown; the horns likewise are without antlers, and rest upon the back, &c. Mr. Gmelin, who describes it under the name of *Doheren*, says it resembles the roebuck, with this exception, that the horns are, like those of the ibex, hollow, and, like them, never fall off.

To the four first species or tribes of Gazelles, must be added two other animals, which resemble them in many things. The first is called *koba* at Senegal, where the French have styled it the *great brown cow*. The second, which we call the *kob*, is also an animal of Senegal, which the French have denominated the *small brown cow*. The horns of

the kob greatly resemble those of the Gazelle and the kevel: but the shape of the head is different; the muzzle is much longer, and there are no pits nor depressions under the eyes.

The seventh animal of this kind is a Gazelle which is found in the Levant, but more commonly in Egypt and in Arabia. It is called, from its Arabian name, *Algazelle*; it is shaped pretty much like the other Gazelles, and is nearly of the size of a deer; but its horns are long, small, and but little rounded till towards the extremity, when they turn short with a sharp flexure; they are black, and almost smooth, and the annular prominences scarcely observable, except towards the base, where they are a little more visible. They are about three feet in length, while those of the Gazelle are commonly but one foot, those of the kevel fourteen and fifteen inches, and those of the corin (which, nevertheless, resembles this the most) only six or seven inches.

The eighth animal is that which is vulgarly called the *Bezoar Gazelle*, but by the eastern nations *Pasan*, which name we retain. This Gazelle is of the size of our domestic he-goat; and it has the hair, shape, and agility of the stag. In most respects, these two species, the *Algazelle* and the *Pasan*, appear to us to have a great affinity. They are also natives of the same climate, and found in the Levant, in Egypt, in Barbary, in Arabia, and Persia; but there is this difference: the *Algazelle* feeds upon the plains, and the *Pasan* is only found in the mountains. The flesh of both is very good food.

The ninth Gazelle is an animal which is called *Nanguer* at Senegal. It is three feet and a half long, two feet and a half high; it is of the colour of the

roe buck, fallow upon the upper part of the body, white under the belly and upon the hinder parts, with a spot of the same colour on the neck. Its horns are prominent, like those of the other Gazelles, and are about six or seven inches in length: they are black and round; but what is very particular in them is, that near the points they are crooked forwards, nearly as those of the chamois are bent backwards. These Nanguers are very beautiful animals, and very easy to tame.

The tenth Gazelle is a very common animal in Barbary and in Mauritania, and so well known to the English that they have given it the name of the *Antelope*. This animal is of the size of a roe buck, and greatly resembles the common Gazelle and the kevel, yet differs from them in many particulars, so as to be looked upon as an animal of a different species. This Antelope has deeper eye-pits than the common Gazelle; its horns are about fourteen inches long, almost touching each other at the bottom, spreading as they rise, so as, at their tips, to be sixteen inches asunder. They have the annular prominences of the Gazelle and the kevel, but not so distinguishable as in those. But what serves particularly to distinguish this Antelope is, the double flexure, very uniform and remarkable, so that the two horns make a tolerable representation of an antique lyre.

In reviewing all the animals of this class, we find there are about twelve species, or distinct varieties. in the Gazelles; and, after having carefully compared them, we suppose, first, that the common Gazelle, the Kevel, and the Corin, are only three varieties of one species; secondly, that the Tzeiran, the Koba, and the Kob, are all three varieties of another spe-

cies ; thirdly, we presume, that the Algazelle, and the Pasan, are only two varieties of the same species ; and we imagine that the name *Bezoar Gazelle*, which has been given to the Pasan, is no distinctive character ; for we think ourselves able to prove, that the Oriental bezoar does not come from the Pasan alone, but from all the Gazelles and goats which live in the mountains of Asia ; fourthly, it appears, that the Nanguers, whose horns are crooked forwards, and who, together, compose two or three particular varieties, have been indicated by the ancients under the name of the *Dama* ; and, fifthly, that the Antelopes, which are about three or four in number, and which differ from all others, by the double flexure of their horns, have also been known to the ancients by the names of *Strepsiceros* and of *Addax*.

The Gazelles are hunted not only with dogs, assisted by the falcon, but also, in some countries, with the ounce. This fine animal, tamed for the purpose, generally goes with the hunter ; and when the prey is near, they unchain it, and show it the Gazelles. It immediately exerts all its arts and fierceness in the pursuit, not, as might be supposed, by running after them, but by turning and winding about with the utmost cunning till it is near its prey, when it bounds all at once upon the Gazelle, strangles it instantaneously, and sucks its blood. If it misses its aim, which often happens, it rests in the place, nor attempts to pursue them any further ; perhaps from the instinct that, as they can run much swifter, and a longer time, the chase would be useless. The master then draws near the ounce, coaxing it, and flinging it some pieces of flesh, until he is near enough to chain and bring it back to its former station.

In some places, they take the wild Gazelles by means of a tame one, to the horns of which they fasten a snare made of cord. When a herd of Gazelles is found, the tame one is sent among the rest; it no sooner approaches than the males of the wild herd advance to oppose him, and, in butting with their horns, are entangled in the noose. In this struggle, they both commonly fall to the ground, when the hunter coming up kills the one, and disengages the other.

The Antelopes, especially the largest sort, are much more common in Africa than in India; they are stronger and fiercer than the other Gazelles, from which they are easily distinguishable by the double flexure of their horns; they have also no black or brown streaks on their sides. The middling sized Antelope is about the size and colour of the deer; their horns are very black, their body very white, and their fore legs shorter than the hinder ones. They are well made, and only sleep in dry and clean places; they are likewise very swift, very watchful, and very apprehensive of danger; so that, in open places, when they see a man, a dog, or any other enemy, they fly, with all their swiftness, till they are out of danger. But, notwithstanding this natural timidity, they have a kind of courage, if they are surprised, when they turn short round, and face the enemy that attacks them with great firmness.

Such is the brightness and beauty of the eyes of the Antelope, that they furnish similes to the poet; and to call a woman "gazelle-eyed," is to pay her one of the highest compliments.

The Bezoar Stone is the production not only of Gazelles, but of wild and domestic goats, and even

sheep. Probably the formation of this stone depends more on the temperature of the climate, and the quality of the food, than on the nature or species of the animal. Some authors have asserted, that the true occidental bezoar, i. e. that which possesses most virtue, is the production of monkeys, and not of Gazelles, goats, or sheep. But this opinion is not founded on a proper basis; for we have seen many of these concretions, to which the name of *monkey bezoar* has been given, quite different from the *oriental bezoar*, which is certainly produced by a ruminating animal, and which is easily distinguishable from all other bezoars, by its shape, substance, and colour, which is generally of an olive brown without and within; while the *occidental* bezoar is of a pale yellow; the substance of the first is also softer and finer; that of the last harder and drier. The oriental bezoar has been prodigiously in vogue, and a great consumption has been made of it in the last century; and since it has been made use of in Europe and in Asia, for all cases in which our present physicians give cordial medicines and other antidotes, may we not presume, by the great quantities which formerly have been, and by what at present is consumed, that this stone is produced not from a single species of animal, but from many; and that it is equally the production of Gazelles, goats, and sheep, who cannot produce it but in certain climates of the Levant and Indies.

This stone is formed, as is well known, by concentrical layers, and often contains some foreign matter, even from the circumference to the very centre. We have inquired into the nature of this matter, which serves as a nucleus to the oriental bezoar, from which a judgment may be formed of

the kind of animal that has swallowed them. This nucleus is of various kinds, sometimes pieces of flint, tamarinds, grains of cassia, pieces of straw, and the young buds of trees in particular; therefore, from the above facts, we can attribute this production only to those animals which brouse upon shrubs and leaves.

Garcius ab Horte says, that in Khorasan, and in Persia, there is a kind of goats called pasans, and that it is in their stomachs that the bezoar is formed; for, in the great number of goats that are killed for the subsistence of the troops, the stones are eagerly sought after, in the stomachs of these animals, and very commonly found there.

With respect to the occidental bezoar, we can affirm, that they proceed neither from goats nor Gazelles, nor even any animal of that kind, in all the extent of the New World. Instead of Gazelles, we only meet with roebucks in the woods of America; instead of wild goats and sheep, animals of a quite different nature are seen on the mountains of Peru and Chili, viz. the llamas and the pacos.

Mr. Daubenton, who has more narrowly inspected into the nature of bezoar stones than any other person, thinks that they are composed of a matter similar to that which fastens itself to the teeth of ruminating animals, in form of a shining tartareous matter.

The chamois, and perhaps the ibex of the Alps, the goats of Guinea, and many other animals of America, afford bezoar; and if we comprehend, under this name, all concretions of this nature which are met with in different animals, we may be assured that most quadrupeds, excepting carnivorous ones, produce bezoar, which is even to be found in crocodiles and alligators.

To form, therefore, a clear idea of these concretions, it will be necessary to divide them into many classes, and fix them to the animals which produced them, observing, at the same time, the climate and the food which mostly assisted this kind of production.

First, then, the stones which are found in the bladder, and in the reins of men, and other animals, must be held distinct from the bezoar class, and described by the name of *calculi*, their substance being quite different from that of the bezoar; they are easily known by their weight, their urinous smell, and their composition, which is not regular, nor formed with concentrical layers, like that of the bezoar.

2. The concretions that are often found in the gall-bladder, and in the liver of the human species, and of the brute creation, must not be regarded as bezoar stones, they being easily distinguishable from them, by their lightness, their colour, and their inflammability; and, besides, they are not formed by layers encircled round, or nucleuses, like the bezoar.

3. The balls that are often found in the stomach of animals, and especially in those that ruminate, are not true bezoars. These balls, which are called *egagropiles*, are composed internally of the hair the animal has licked off and swallowed, or from the hard roots which he has fed upon, and which he could not digest; their external part is incrustated with a viscous substance, something similar to that of the bezoar. The *egagropiles*, therefore, have nothing in them, except this external layer, of the bezoar; and a single inspection is sufficient to distinguish the one from the other.

4. *Egagropiles* are often found in the animals of

temperate climates, but scarcely ever any bezoar. Animals of hotter countries, on the contrary, only produce bezoar: the elephant, the rhinoceros, the goats, the Gazelles of Asia and Africa, the llama of Peru, and others, produce, instead of *egagropiles*, solid bezoar, whose substance and size vary relatively according to the difference of the animals and the climates.

5. The bezoar to which the greatest virtues and properties have been attributed is the oriental bezoar, which, as we have said, proceeds from the goats, Gazelles, and sheep, which feed on the mountains of Asia. The bezoar of an inferior quality, and which is called *occidental*, is produced from llamas and pacos, which are to be found in the mountains of South America. In short, the goats and Gazelles of Africa also produce bezoar, but not of so good a quality as those of Asia.

From all these circumstances, we may conclude that, in general, the bezoar is only a residue of the vegetable nutriment, which is not to be found in carnivorous animals, and which is only produced in those who feed on plants; that in the mountains of Southern Asia the herbage being stronger than in the other parts of the world, the bezoar which is made from the residue of that food has also more virtues than any other; that in America, where the heat is less, the grass of the mountains being weaker, the bezoars produced there are inferior to the first; and in Europe, where the grass is still weaker, and in all the valleys of both continents, no bezoar is produced, but only *egagropiles*, which contain nothing but hair or roots, and very hard filaments, which the animal was unable to digest.

THE BUBALUS, OR STAG-LIKE ANTELOPE,

RESEMBLES the stag, the gazelle, and the ox, in many very remarkable respects; the stag, in the size and shape of its body and legs, in particular; but its horns are permanent, and made nearly like those of the largest gazelles; which animal it also resembles in its natural habits: its head, however, is much longer than the gazelle's, and even than the stag's; and it resembles the ox, by the length of the muzzle, and the disposition of the bones of the head.

The horns of the Bubalus are crooked backwards, and twisted like a corkscrew. The shoulders are elevated, so that they form a sort of bunch upon the withers. The tail is almost a foot long, and furnished with a quantity of hair at its extremity.

The hair of the Bubalus is like that of the elk, fine towards the root, thick in the middle and extremity. This character is particular to these two animals; for the hair of almost every quadruped is thicker at the root than at the middle and point. The hair is nearly of the same colour as the elk, though much shorter, thinner, and softer; and these alone are the resemblances between the Bubalus and the elk.

The Bubalus is common in Barbary, and in all the northern parts of Africa. It is nearly of the same nature as the antelope, and has, like that, short hair, and a black hide, and flesh which makes very good food.

THE CONDOMA, OR STRIPED ANTELOPE.

THE Marquis de Marigny had in his cabinet the head of an animal, which, at first sight, I supposed to have belonged to a great bubalus. It is like those

of our largest stags; but the horns, instead of being solid like those of the stag, are large and hollow, with a ridge like those of the goat kind, and with varied flexures like those of the antelope. In examining the royal cabinet for what might be there relative to this animal, two horns were found which belonged to it; the first, without any mark or name, came from his majesty's wardrobe; the second was given, in 1760, by M. Bauchis, commissary of the marines, with the name of the Condoma of the Cape of Good Hope affixed to it.

In looking over the works of travellers, for those marks which might have an affinity with the remarkable size of the horns of this animal, we can find none which have a nearer relation to it than those of the animal indicated by Kolben, by the name of the *wild goat* of the Cape of Good Hope:—"This goat," he says, "to which the Hottentots have not as yet given a name, and which I call the *wild goat*, is very remarkable in many respects. It is about the size of a large stag; its head is very handsome, ornamented with two crooked and pointed horns, about three feet long, and, at their extremities, about three feet asunder. All along the back there runs a white list, which ends at the insertion of the tail; another of the same colour crosses this at the bottom of the neck, which it entirely surrounds. There are two more running round the body, one behind the fore legs, and one parallel to it, before the other. The colour of the rest of the body is grayish, except the belly, which is white. It has also a long, gray beard; and its legs, though long, are well proportioned."

THE GUIB, OR HARNESSED ANTELOPE,

Is common in Senegal. It resembles the gazelles, especially the nanguer, by the size and shape of its body, by the fineness of its legs, by the shape of its head and muzzle, by the eyes, by the ears and length of its tail, and by the defect of a beard; but every gazelle, especially the nanguer, has the belly white, while the breast and belly of the Guib is of a deep brown. It also differs from the gazelles by the horns, which are smooth, and not marked with annular prominences. They are also a little compressed; and the Guib, in these particulars, is more like the goat than the gazelle; nevertheless, it is neither the one nor the other, but of a particular kind, which seems to be intermediate between the gazelle and the goat. It is also remarkable for white lists on a brown ground, which are disposed along the animal's body, as if it were covered with a harness. It feeds in company; and they are found in numerous herds in the plains of Podor.

THE GRIMM.

THIS animal is only known to naturalists by the name of the *Wild Goat of Grimmus*; and, as we are not acquainted with the name it bears in its own country, we cannot do better than adopt this precarious denomination. There are two characters which are sufficient to distinguish it. The first is a very deep cavity under each eye; the second is a tuft of hair, standing upright on the top of the head. It resembles both the goat and the gazelle, not only

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in the shape of its body, but even in its horns, which are annulated towards the base, and have longitudinal streaks, like those of the gazelles; at the same time, they are very short, and bend backwards in an horizontal direction. Its hair is generally of a yellowish fawn colour, gray along the back, the muzzle black, and the limbs gray. There is some reason to think, that the male Grimm alone is furnished with horns. It is a native of Guinea.

THE INDIAN ANTELOPE.



“THE Indian Antelope (says Mr. Bennett), of which the specimen in the Tower constitutes a remarkable and highly interesting variety, is not only one of the most beautiful, but also the most celebrated species of the group. It occupies the place of Capricorn in the Indian zodiac, and is consecrated to the service of Chandra, or the Moon. In size and form it

closely resembles the gazelle of the Arabs, the well known emblem of maiden beauty, typified, according to the poets, in the elastic lightness of its bound, the graceful symmetry of its figure, and the soft lustre of its full and hazel eye. From this truly elegant creature our antelope is, however, essentially distinguished by several striking characters. Its horns, which are peculiar to the male, are spirally twisted, and form, when fully grown, three complete turns; they are closely approximated to each other at the base, but diverge considerably as they proceed upwards. They occasionally attain a length of nearly two feet, and are surrounded throughout by elevated and close set rings. The two horns taken together have frequently been compared to the branches of a double lyre. The extremity of the nose is bare, forming a small and moist muzzle; the sub-orbital openings are larger and more distinct than in almost any other species, and the ears are pointed, and of moderate size. The natural colours vary with the age of the animal, but correspond in general pretty closely with those of the common deer. They may be shortly described as fawn above and whitish beneath, becoming deeper with age, and lighter in the females than in the males. The occasional stripes of a lighter or darker colour, which are generally visible on various parts of the body, can scarcely be considered as occurring with sufficient regularity to allow of their being described as characteristic of the species. But for these shades of colour, or for any other, we shall look in vain in the animal of the Tower Menagerie, which, in consequence of a particular conformation, not unfrequent in some species of animals, and occasionally met with in the human race, is perfectly and purely white." It is, in fact, an Albino—a circumstance

which, in all cases, is attributable to the absence of the *reta mucosum* from the skin.

“The present species of Antelope is spread over the whole of the peninsula of Hindostan and a part of Persia, but it is questionable whether it has been found in Africa, as is commonly asserted.”



THE CHEVROTINS.

WE have given the name of *Chevrotin* (*tragulus*) to those small animals of the hotter countries of Africa and Asia, which almost every traveller has mentioned, by the denomination of *Small Stags*, or *Little Hinds*: in fact, the Chevrotin is a miniature resemblance of the stag, by the shape of the muzzle, the delicacy of its body, the shortness of its tail, and the shape of its legs; but it differs greatly from it in the size, the largest Chevrotins being never found longer than the hare. In other respects, the horns of those which have any, are hollow, annulated, and nearly resembling the gazelles. Their foot is cloven, and is also more of the gazelle than of the stag kind. They differ from the gazelle and the stag, by not having any depressions or hollows under their eyes, and in that respect approach nearer the goat kind; but, in reality, they are neither stag, gazelle, nor goat, and constitute one or more distinct species. Seba gives the figures and the descriptions of five

Chevrotins: the first, the *small red Guinea Hind, without horns*; the second, the *Fawn, or small African Stag*; the third, the *small young Stag of Guinea*; the fourth, the *small red and white spotted Hind of Surinam*; the fifth, the *red haired African Stag*. Of these five Chevrotins mentioned by Seba, the first, second, and third are evidently the same animal; the fifth, which is larger than the three first, and whose hair is redder, much longer, and of a deeper brown, seems to be only a variety of this species; the fourth, which the author indicates as an animal of Surinam, is probably but a second variety of this species; which is only found in Africa, and in the southern parts of Asia.

These animals are of an elegant make, and finely proportioned for their size. But, though they leap and bound with prodigious swiftness, yet, apparently, they cannot continue it for a long time; for the Indians often hunt them down; and the Negroes likewise pursue them, and knock them down with their sticks. They are greatly hunted after, as their flesh is excellent food. They can only live in excessively hot climates; and they are so exceedingly delicate, that it is with the greatest trouble they are transported into Europe alive, where they perish in a short time. They are easily tamed, very familiar, and beautiful. The Chevrotin is, without doubt, the least of all cloven-footed animals. According to this character, they should not bring forth many young; but, if we reason from their small size, we should imagine they brought forth several at a time. They are exceedingly numerous in the Indies, Java, Ceylon, Senegal, Congo, and in every other country that is excessively hot, and are not to be found in America, nor in any of the temperate climates of the Old Continent.

MAZAME,

IN the Mexican language, was the name of the stag, or rather of the whole race of stags, deer, and roe-bucks. Travellers distinguish two kinds of Mazames, both common to Mexico and New Spain; the first and largest, to which they give the simple name of Mazame, has horns like that of the roe-buck of Europe, about six or seven inches in length, and of a dark hue, with the extremities pointed and bent back; it is less than a goat; its fur is generally of a pale reddish brown above; on the chest and inner part of the limbs it is of a yellowish white; its tail is thick and short. The second, called *Tememazame*, is less than the former, is handsomely shaped; its ears are long, narrow, and rounded at the end; the tail is pretty long; the fur is fawn coloured above, and white beneath, with a spot of white on the chest, and another round the mouth. The horns are about six inches long, black, and a little bent at the point.

THE COUDOUS.

OF all animals, those that chew the cud are the most numerous, and most varied. In the very great quantity of horns collected together in the royal cabinet, or dispersed in private collections, there still remains one without label, without name, absolutely unknown, and of which we have no other indexes than those which we can draw from the subject itself. This horn is large, almost straight, and very thick and black. It is not solid like that of the stag, but resembles that of the ox. After seeking a number of different cabinets, we at last found, in that of

Mr. Dupleix, a head adorned with two horns, resembling this we mention : this was labelled with these words—*The horns of an animal nearly like a horse, of a grayish colour, with a mane before its head : it is called, at Pondicherry, COESDOES, which should be pronounced COUDOUS.*

The Coudous may possibly be of the buffalo species; and the travellers in Africa, where the buffalo is as common as in Asia, more precisely mention a kind of buffalo, called *pacasse*, at Congo, which, by the indexes, seems to us to be the Coudous. "In the route from Louanda to the kingdom of Congo, we perceived," say they, "two Pacasses, which are animals greatly resembling buffalos, and which roar like lions. The male and female go always together. They are white, spotted with red and black. Their ears are about half an ell long; and their horns are short. They neither fly at the sight of the human species; nor do them any injury, but only look at them as they pass by."

It appears probable that M. Buffon is in error, both as to the native place of this animal and its belonging to the buffalo class. The Coudous is, most probably, the *Antilope Oreas* of Pallas, the *Canna* or *Gann* of the Hottentots, and inhabits the mountains of the Cape of Good Hope. This animal is of the size of a horse, has a long head, and its fur is of a fawn colour bordering on red above, white beneath, and ash coloured on the head and neck.

THE GNU.

THE genus of antelope is almost infinitely extended, and probably embraces some animals not yet described. To this genus may perhaps be referred

that singular quadruped, which the Hottentots, from its voice, distinguish by the name of *Gnu*. It is described by travellers as resembling in form the horse, the ox, and the stag. It is about the size of a small horse, that is, about four or five feet in height, and between five and six in length. The colour of the body, which is said to be finely proportioned, is a dark brown. Its limbs are slender. Its neck is longer than that of the ox, but neither so long nor so slender as that of the horse. Like the horse it is adorned with a mane, which is stiff and erect. Its horns are singularly curved, being somewhat of the shape of the Greek letter *upsilon*. Its head, however, resembles most that of the ox species. Besides the mane, it has also on the chin and breast a shaggy stiff hair, which is black, while the colour of the mane and tail is gray. It is a native of the southern parts of Africa, where it exists in a gregarious state, and in very large herds. It is a lively, capricious animal.

The Gnu is thus described by Mr. Pringle, who had abundant opportunities of studying its habits at the Cape of Good Hope, and whose talents and observant spirit particularly qualify him to investigate and to communicate the result of his investigation. "The curious animal called *Gnu* by the Hottentots, and *Wilde Beest* (i. e. Wild Ox) by the Dutch colonists, was an inhabitant of the mountains adjoining the Scottish settlement at Bavian's river, and I had therefore opportunities of very frequently seeing it both singly and in small herds. Though usually, and perhaps correctly, by naturalists ranked among the antelope race, it appears to form evidently one of those intermediate links which connect, as it were, the various tribes of animals in a harmonious

system in the beautiful arrangement of nature. As the *hyæna dog*, or '*wilde hond*' of South Africa, connects the dog and wolf tribe with that of the hyæna, in like manner does the Gnu form a graceful link between the buffalo and the antelope. Possessing the distinct features which, according to naturalists, are peculiar to the latter tribe, the Gnu exhibits at the same time in his general aspect, figure, motions, and even the texture of his flesh, qualities which partake very strongly of the bovine character. Among other peculiarities, I observed, that, like the buffalo or the ox, he is strangely affected by the sight of scarlet; and it was one of our amusements when approaching these animals to hoist a red handkerchief on a pole, and to observe them caper about, lashing their flanks with their long tails, and tearing up the ground with their hoofs, as if they were violently excited, and ready to rush down upon us; and then all at once, when we were about to fire upon them, to see them bound away, and again go prancing round us at a safer distance. When wounded, they are reported to be sometimes rather dangerous to the huntsman; but though we shot several at different times, I never witnessed any instance of this. On one occasion, a young one, apparently only a week or two old, whose mother had been shot, followed the huntsman home, and I attempted to rear it on cow's milk. In a few days it appeared quite as tame as a common calf, and seemed to be thriving; but afterwards, from some unknown cause, it sickened and died. I heard, however, of more than one instance in that part of the colony, where the Gnu, thus caught young, had been reared with the domestic cattle, and had become so tame as to go regularly out to pasture with the

herds, without exhibiting any inclination to resume its natural freedom; but in consequence of a tendency which the farmers say they evinced to catch, and to communicate to the cattle, a dangerous infection, the practice of raising them as curiosities has been abandoned. I know not if this imputation be correct, but it is true that infectious disorders do occasionally prevail to a most destructive extent among the wild as well as the domesticated animals in South Africa, and especially among the tribes of larger antelopes.

“ There is another species of Gnu found farther to the northward, of which I saw a single specimen in the colony, which, in the shape of the horns, and same other particulars, still more resembles the ox. This species has been described by Burchell, under the name of *antelope taurina*.”

THE NYL GHAU.



PENNANT gives to this animal the name of the white-footed antelope. Its Persian name Nyl Ghau signifies a blue cow or bull; and, in fact, the creature

seems to join something of the bull species with something of the antelope or deer. It is rather more than four feet high at the shoulder. The male is of a dark gray colour, with short horns; the female is of a pale brown, without horns. The mode in which these animals fight is curious. While still at a distance from each other, they prepare for the attack by falling on their fore knees, and when they come within a few yards they make a spring, and dart against each other. The force with which they spring in this manner is very great. In its wild state, the Nyl Ghau is said to be exceedingly vicious; but when domesticated, it becomes tame and even affectionate. It is a native of the interior parts of India, and in several parts of that country is considered as royal game, to be hunted only by princes.

THE MUSK ANIMAL,

OR THIBETIAN MUSK.

To finish a complete history of goats, and other animals of this genus, there is only one remaining to be described, which is as famous as it is unknown. The animal we mean is that which produces the musk, which all modern naturalists, and the greatest part of travellers through Asia, have spoken of, some by the name of the stag, roe-buck, and musk goat; others have considered it as a large chevrotin; and truly it seems to be of an ambiguous nature, participating of all the above animals, although, at the same time we can assert, that its species is different from all others. It is a native of the highest and rudest mountains of Thibet, and some other parts of Asia, about the size of a small roebuck, or

gazelle; but its head is without horns; and by this character it resembles the *memina*, or chevrotin of India. It has two great canine teeth or tusks in the upper jaw, by which it approaches the chevrotin; but, what distinguishes it from all other animals, is a kind of bag, about two or three inches in diameter, which grows near the navel, and into which a liquor filtrates, which differs from the civet by its smell and consistence. Neither the Greeks nor Romans have made any mention of the Musk Animal; and Grew is the only person who has made an exact description of it from its skin. The description given by that author is as follows:—

The Musk Stag is about three feet six inches in length, from the head to the tail; and the head is about half a foot long; the neck, seven or eight inches; the fore part of the head, three inches broad, and like that of a greyhound; the ears are erect, like those of a rabbit, and about three inches long; the tail is not above two inches; the fore legs are about thirteen or fourteen inches high; it is cloven-footed, armed behind and before with two horny substances, but none on the hind feet.

The bladder or bag which contains the musk is about three inches long, two broad, and stands out from the belly about an inch and a half. The animal has twenty-six teeth. There is also a tusk, or canine tooth, about two inches and a half long, on each side in the upper jaw, which terminates in the form of a hook. It has no horns. It appears, further, that the hair of this animal is long and rough, the muzzle pointed, the tusks somewhat like those of the hog. By these marks it approaches the boar kind, and perhaps still more that of the *babiroussa*, which the naturalists have denominated the

Indian boar. The American hog also, which we call *pecari*; has a bag or cavity on its back, containing plenty of a very odoriferous humour. In general, those animals which produce odoriferous liquors, as the badger, the castor, the *pecari*, the *ondatra*, the *desman*, the civet, the *zibet*, are not of the stag or goat kind. Thus we might be tempted to think, that the Musk Animal is nearer the hog species than that of the goat.

In respect to the matter of musk itself, its essence, that is, its pure substance, is perhaps as little known as the nature of the animal which produces it. All travellers agree, that the musk is always mixed and adulterated with blood, or some other drugs, by those who sell it. The Chinese not only increase the quantity by this mixture, but they endeavour likewise to increase the weight, by incorporating with it lead very finely ground. The purest musk, and that which is the most sought after, even by the Chinese themselves, is that which the animal deposits upon trees or stones, against which it rubs itself when the quantity renders it uneasy. The musk which is brought over in the bag is very seldom so good, because it is not yet ripe, or because it is only in their rutting season that it acquires all its strength and all its smell; and it is at this time the animal endeavours to disburthen itself of this pure matter, which then causes such violent itchings and irritations. A single grain of musk is sufficient to perfume a great quantity of other matter; and the odour expands itself to a very great distance. The smallest particle is sufficient to perfume a considerable space; and the perfume is so permanent, that, at the end of several years, it does not seem to have lost much of its power.

CHAP. XIX.

Of the Babiroussa, or Indian Hog...The Cabiai...The Porcupine...The Couando...The Urson...The Asiatic Hedgehogs...The Camelopard...The Llama and Paco...The Vicuna...The Sloth...The Surikat...The Tarsier...The Phalanger...The Coquallin...The Hamster...The Bobak...The Jerboa...The Ichneumon...The Gray Ichneumon...The Fossan...The Vansire...The Maki or Macauco...The White-headed Mongoos...The Bengal Loris...The Javelin Bat.

THE BABIROUSSA,
OR INDIAN HOG.



ALL naturalists have regarded this animal as a kind of hog, though it has neither the head, shape, bristles, nor tail of a hog. Its legs are longer and its muzzle shorter. It is covered with soft and short hair like wool; and its tail, which tapers to a fine point, is terminated by a tuft of the same; its body is likewise not so thick and clumsy as that of the hog; its ears are short and pointed; its skin is black, and furrowed with wrinkles and creases; but the most remarkable character, and what distinguishes it from all other animals, are four enormous tusks, or canine

teeth; the teeth, the two shortest of which shoot out of the lower jaw, like those of the boar; the two others, which come from the upper jaw, pierce the cheeks, or rather the upper part of the lips, and rise crooked almost to the eyes. These tusks are of a very beautiful ivory, much smoother and finer, but not so hard as that of the elephant.

These quadruple and enormous tusks give these animals a very formidable appearance; they are, however, less dangerous than our wild boars. They go, like them, in herds; they have a very strong smell, by which they are easily discovered, and hunted with good success. They grunt terribly, defend themselves, and wound their enemy with their under tusks; for the upper are rather of disservice than of use to them. Although wild and ferocious as the boar, they are tamed with great ease; but their flesh, which is very good food, putrefies in a very short time. As their hair is fine, and their skin delicate, it is soon penetrated by the teeth of the dogs, who hunt them in preference to wild boars, and sooner accomplish their purpose. The Babiroussa strikes its upper tusks into the branches of trees, to rest its head, or to sleep standing. This habit it has in common with the elephant, who, in order to sleep in an erect posture, supports his head by fixing the end of his tusks in the holes which he makes in his lodging.

The Babiroussa differs still more from the wild boar by its natural appetites. It feeds upon grass and leaves of trees, and does not endeavour to enter gardens, to feed on beans, peas, and other vegetables; while the wild boar, who lives in the same country, feeds upon wild fruits, roots, and often on the depredations it makes in gardens. These animals, who

go alike in herds, never mix: the wild boars keep on one side, and the Babiroussas on the other; these walk quicker, and have a very fine smell. They often fix themselves against a tree, to keep off the hunters and their dogs. When they are pursued for a long time, they make towards the sea, and, swimming with great dexterity, very often escape their pursuit; for they swim for a very long time, and often to very great distances, and from one island to another.

The Babiroussa is found not only in the island of Bourou, near Amboyna, but also in many parts of Southern Asia and Africa. We have not had it in our power to convince ourselves, that the female had not the two tusks which are so remarkable in the male; but most authors, who have spoken of this animal, seem to agree in this circumstance¹.

THE CABIAI.

THIS American animal, which is also called the Capibara, has never yet made its appearance in England. It is not a hog, as naturalists and travellers pretend; it even resembles it only by trifling marks, and differs from it by striking characters. The largest Cabiai is scarcely the size of a hog of eighteen months growth. The head is longer; the eyes are larger; the snout, instead of being rounded, as in the hog, is split like that of a rabbit or hare, and furnished with thick, strong whiskers; the mouth is not so wide; the number and form of the teeth are different; for it is without tusks: like the

¹ Lesson, the latest naturalist who has mentioned the Babiroussa, and who examined many of them in Java, states that the female has only two tusks, and is also much smaller than the male.

peccary, it wants a tail, and, unlike to all others of this kind, is in a manner web-footed, and thus easily fitted for swimming and living in water. The hoofs before are divided into four parts, and those behind into three; between the divisions, there is a prolongation of the skin; so that the feet, when opened in swimming, can beat a great surface of water.

This animal, thus made for the water, swims there like an otter, seeks the same prey, and seizes the fish with its feet and teeth, and carries them to the edge of the lake to devour them with the greatest ease. It lives also upon fruits, corn, and sugarcanes. As its legs are broad and flat, it often sits upright upon its hind legs. Its cry resembles more the braying of an ass than the grunting of a hog. Its colour is a deep reddish brown above, and fawn beneath. It seldom stirs out but at night, and almost always in company, without going far from the sides of the water in which it preys. It can find no safety in flight; and, in order to escape its enemies which pursue it, it plunges into the water, remains at the bottom a long time, and rises at such a distance, that the hunters lose all hopes of seeing it again. It is fat; and the flesh is tender, but, like that of the otter, rather of a fishy taste; the head, however, is not bad; and this agrees with what is said of the beaver, whose exterior parts have a taste like fish.

The Cabiai is quiet and gentle: it is neither quarrelsome nor ferocious with other animals. It is easily tamed, comes at call, and willingly follows the hand that feeds it. We do not know the time of their bringing forth their young, their growth, and consequently the length of life of this animal. They are very common in Guiana, as well as in Brazil, in Amazonia, and in all the lower countries of South America.

THE PORCUPINE.



THE name of this animals leads us into an error, and induces many to imagine, that it is only a hog covered with quills, when, in fact, it only resembles that animal by its grunting. In every other respect it differs from the hog as much as any other animal, as well in outward appearance, as in the interior conformation. Instead of a long head and ears, armed with tusks, and terminated with a snout; instead of a cloven foot, furnished with hoofs, like the hog, the Porcupine has a short head, like that of the beaver, with two large incisive teeth in the fore part of each jaw; no tusks, or canine teeth: the muzzle is divided like that of the hare; the ears are round and flat, and the feet armed with nails; instead of a large stomach with an appendage in form of a caul, the Porcupine has only a single

stomach, with the large cœcum gut; the parts of generation are not apparent externally, as in the male hog; its testes, and the other parts of generation, are likewise concealed in the body. By all these marks, as well as by its short tail, its long whiskers, and its divided lip, it partakes more of the hare, or beaver kind, than that of the hog. The hedgehog, indeed, who is, like the Porcupine, covered with prickles, is somewhat resembling the hog; for it has a long muzzle, terminated by a kind of snout; but all these resemblances being very distant, it seems that the Porcupine is a peculiar and different species from that of the hedgehog, the beaver, the hare, or any other animal with which it may be compared.

It is generally about two feet in length, from the head to the extremity of the tail. The body is covered with spines, from ten to fourteen inches long, resembling the barrel of a goose quill in thickness, but tapering at both ends, and variegated with black and white rings. In their usual state, they incline backward, like the bristles of a hog, but when the animal is irritated, they rise and stand upright.

Travellers and naturalists have almost unanimously declared, that this animal has the faculty of discharging its quills, and wounding its foes at an immense distance; that these quills have the extraordinary and particular property of penetrating farther into the flesh, of their own accord, as soon as ever the point has made an entrance through the skin. These stories, however, are all purely imaginary, and without the smallest foundation or reason. The error seems to have arisen either from this animal raising its prickles upright, when he is

irritated; and, as there are some of them which are only inserted into the skin by a small pellicle, they easily fall off; or from his sometimes shaking off his quills to a considerable distance when he is shedding them. We have seen many Porcupines, but have never observed them dart any of their quills from them, although they were violently agitated. We cannot, then, avoid being greatly astonished, that the greatest authors, both modern and ancient, as well as the most sensible travellers, have joined in believing a circumstance so entirely false. In justice, however, to Dr. Shaw, we must except him from the number of these credulous travellers: "Of all the number of Porcupines," says he, "which I have seen in Africa, I have never yet met with one which darts its quills, however strongly it was irritated. Their common method of defence is to lie on one side, and when the enemy approaches very near, to rise suddenly, and wound him with the points of the other." It appears, however, that there is a pernicious quality in the quills; which renders it difficult to cure the wounds inflicted by them.

The Porcupine, although a native of the hottest climates of Africa and India, lives and multiplies in colder countries, such as Persia, Spain, and Italy. Agricola says, that the species were not transported into Europe before the last century. They are found in Spain, but more commonly in Italy, especially on the Apennine mountains, and in the environs of Rome.

In its wild state, the Porcupine is a perfectly inoffensive animal. It never attacks, and will elude an aggressor when it can; but if compelled to defend itself, it forces even the lion to retire. In its domestic state, it is neither furious nor vicious; it

is only anxious for its liberty ; and, with the assistance of its fore teeth, which are sharp and strong, like those of the beaver, it easily cuts through a wooden prison. It is also known, that it feeds willingly on fruits, chestnuts, and crumbs of bread ; that, in its wild state, it lives upon roots and wild grain ; that, when it can enter a garden, it makes great havoc, eating the herbs, roots, fruit, &c. It becomes fat, like most other animals, towards the end of summer ; and its flesh, although insipid, is tolerable eating.

When the form, substance, and organization of the prickles of the Porcupine are considered, they are found to be true quills, to which only feathers are wanting to make them exactly resemble those of birds. They strike together with a noise as the animal walks ; and it easily erects them in the same manner as the peacock spreads the feathers of its tail. The Indians use them to adorn many articles of dress and furniture, and dye them of various colours.

THE COUANDO,
OR BRAZILIAN PORCUPINE.



THE Porcupine, as has been observed, is a native of the hot countries of the Old World ; but, not having been found in the New, travellers have not hesitated

to give its name to animals which seemed to resemble it, and particularly to that of which we are about to take notice. On the other hand, the Couando of America has been transported to the East Indies; and Pison, who probably was not acquainted with the porcupine, has engraved in Bontius the Couando of America, under the name and description of the true porcupine. The Couando, however, is not a porcupine, it being much less; its head and muzzle is shorter; it has no tuft on its head, nor slit in the upper lip; its quills are somewhat shorter, and much finer; its tail is long, and that of the porcupine is very short; it is carnivorous, rather than frugivorous, and endeavours to surprise birds, small animals, and poultry, while the porcupine only feeds upon herbs, greens, fruits, &c. It sleeps all the day, like the hedgehog, and only stirs out in the night; it climbs up trees, and hangs in the branches by its tail, which the porcupine cannot do. All travellers agree that its flesh is very good eating. It is easily tamed, and commonly lives in high places. These animals are found over all America, from Brazil and Guiana to Louisiana and the southern parts of Canada: while the porcupine is only to be found in the hottest parts of the Old Continent.

In transferring the name of porcupine to the Couando, they have supposed and transmitted to him the same faculties, especially that of lancing his quills. Ray is the only person who has denied these circumstances, although they evidently appear at first view to be absurd.

THE URSON, OR CANADA PORCUPINE.

THIS animal, placed by nature in the desert part of North America, to the east of Hudson's Bay, exists independent of, and far distant from, man. The *Urson* might be called the *spiny beaver*, it being of the same size, the same country, and the same form of body; it has, like that, two long, strong, and sharp incisive teeth at the end of each jaw; its prickles are short, and almost covered with hair; for the *Urson*, like the beaver, has a double coat; the first consists of long and soft hair, and the second, of a down, or felt, which is still softer or smoother. In the young *Ursos* the prickles are proportionably larger, more apparent, and the hair shorter and scarcer than in the adults.

This animal dislikes water, and is fearful of wetting himself. He makes his habitation under the roots of great hollow trees, sleeps very much, and chiefly feeds upon the bark of juniper. In winter, the snow serves him for drink; in summer, he laps water like a dog. The savages eat his flesh, and strip the bristles off the hide, which they make use of instead of pins and needles. Many of the trading Americans also depend upon them for food at certain seasons of the year.



THE TANREC, AND TENDRAC,
OR ASIATIC HEDGEHOGS,

ARE two small animals of the East Indies, and Madagascar, which a little resemble our hedgehog, but are sufficiently different to constitute a different species. What strongly proves this is, their not rolling themselves up in the shape of a ball, like the hedgehog; and where the Tanrecs are found, as at Madagascar, hedgehogs are also found of the same species as ours.

There appear to be Tanrecs of the two species, or perhaps of two different breeds. The first, which is nearly as large as our hedgehog, has its muzzle proportionably longer; and its ears are more apparent, and less furnished with prickles, than those of the second, to which we have given the name of Tendrac, to distinguish it from the first. The Tendrac is not larger than a rat; its muzzle and its ears are shorter than those of the Tanrec; which last is covered with shorter prickles, as numerous as those of the hedgehog; whereas the Tendrac has them only on the head, neck, and shoulders, the rest of the body being covered with a coarse hair resembling the bristles of a hog.

These little animals, whose legs are small, move but slowly; they grunt like a hog, and wallow, like it, in mire; they are chiefly in creeks and harbours of salt water; they multiply in great numbers, and make themselves holes in the ground, and sleep for several months. During this torpid state, their hair falls off, which is renewed upon their revival. They are usually very fat; and although their flesh be insipid, soft, and spongy, yet the Indians find it to their taste, and consider it as a very great delicacy.

THE CAMELOPARD, OR GIRAFFE,



Is one of the tallest, most beautiful, and most harmless animals in nature. The enormous disproportion of its legs (the fore legs being as long again as the hinder ones²) is a great obstacle to the use of its strength; its motion is waddling and stiff; it can neither fly from its enemies in its free state, nor serve its master in a domestic one. The species is not very numerous, and has always been confined to the deserts of Ethiopia, and some other provinces of Africa and India. As these countries were unknown to the Greeks, Aristotle makes no mention of this animal; but Pliny speaks of it, and Oppian describes it in a manner that is far from equivocal.

² This is erroneous, as will be seen from Le Vaillant's description, which we have added to this article.

"The Camelopard," says this author, "has some resemblance to the camel; its head and ears are small, its feet broad, and its legs long; but the height of the last is very unequal, the fore legs being much longer than the hinder, which are very short; so that, when the animal appears standing and at rest, it has somewhat the appearance of a dog sitting. There are two prominences upon the head, just between the ears: they resemble two small and straight horns. Its mouth is like the stag's; its teeth small and white; its eyes full of fire; its tail short, and furnished with black hair at its end."

"There is," says Strabo, "a large beast in Ethiopia, called *Camelopardalis*; although it bears no resemblance to the panther, for its skin is not spotted in the same manner: the spots of the panther are orbicular, and those of this animal are long, and nearly resembling those of the fawn or young stag." Gilius's description seems still better. "I have seen," says he, "three Camelopards at Cairo. On their heads are two horns, six inches long; and, in the middle of their forehead, a tubercle rises to about the height of two inches, which appears like a third horn. This animal is sixteen feet high when he holds his head erect. Its neck alone is seven feet; and it is twenty feet long, from the tip of the nose to the end of the tail. Its fore and hind legs are nearly of an equal height; but the thighs before are so long in comparison to those behind, that its back seems to slope like the roof of a house. Its whole body is sprinkled with large brown spots, which are nearly of the same form. Its feet are cloven like those of the ox."

In inspecting the accounts travellers have given

of the Camelopard, I find a tolerable agreement between them. They all agree, that it can reach with its head to the height of sixteen or seventeen feet, when standing erect; and that the fore legs are as high again as the hinder ones; so that it seems as if it were seated upon its crupper. They all likewise agree, that it cannot run very swift, on account of this disproportion; that it is very gentle, and that by this quality, and even by the shape of the body, it partakes more of the shape and nature of the camel than of any other animal; that it is among the number of ruminating animals, and, like them, is deficient of the incisive teeth in its upper jaw. By the testimonies of some, we find that the Camelopard is to be met with in the southern parts of Africa, as well as in those of Asia.

It is very clear, from what we have mentioned, that the Camelopard is a very different species from every other animal; but if we referred it to any, it would be the camel rather than the stag.

We are ignorant of the substance of the horns of the Camelopard; and in that part it may resemble the stag more than the ox, though possibly they may be neither solid, like those of the first, nor hollow, like those of the ox, goat, &c. Who knows but they may be composed of united hairs, or of a substance and texture entirely peculiar to themselves? The horns of the Camelopard are surrounded with large, coarse hair, and not covered with a down or velvet, like those of the stag. The tubercle in the middle of the head seems to form a third horn: the two others, which are not pointed, but have mossy knobs at their ends, are perhaps only tubercles somewhat resembling the former. Travellers inform us, that the female Camelopards have horns like the

males, with this difference only, that they are smaller. If this animal, therefore, was really of the stag kind, the analogy would be violated here likewise; for, of all such animals, there is only the female rein-deer that has horns.

Since the period when Buffon wrote, the Giraffe has become much better known. Several have been brought to Europe. One of them was sent as a present to his majesty by the Pacha of Egypt, and arrived in this country in 1827. It died recently. There is still one existing in the Jardin des Plantes, at Paris. M. le Vaillant, the first naturalist who had an opportunity of closely examining the Giraffe, gives a full and accurate description of it in his Travels. "The Giraffe chews the cud, as all horned animals with cloven feet do. Like them, too, it crops the grass; though seldom, because pasture is scarce in the country which it inhabits. Its ordinary food is the leaf of a sort of mimosa, called by the natives *kaneap*, and by the planters *kamel doorn*. The tree being peculiar to the canton, and growing only there, this may be the reason why it takes up its abode in it, and why it is not seen in those regions of the south of Africa where the tree does not grow. This, however, is but a vague conjecture, and which the reports of the ancients seem to contradict.

"Its head is unquestionably the most beautiful part of its body. Its mouth is small; its eyes large and animated. Between the eyes, and above the nose, it has a very distinct and prominent tubercle. This is not a fleshy excrescence, but an enlargement of the bony part, the same as the two little bosses, or protuberances, with which its occiput is armed, and which rise as large as a hen's egg, one on each side of the mane, at its commencement. Its tongue

is rough, and terminates in a point. Each jaw has six grinders on each side, but the lower jaw only has eight cutting teeth in front, while the upper jaw has none.

“The hoof is cloven, has no heel, and much resembles that of the ox. It may be observed, however, at the first sight, that the hoof of the fore foot is larger than that of the hind foot. The leg is very slender; but the knee is swelled like that of a stumbling horse, because the animal kneels down to sleep. It has also a large callosity in the middle of the sternum, owing to its usually reposing on it.

“If I had never killed a Giraffe, I should have thought, with many other naturalists, that its hind legs were much shorter than the fore ones. This is a mistake: they bear the same proportion to each other as is usual in quadrupeds. I say the same proportion as is usual, because in this respect there are variations, even in animals of the same species. Every one knows, for instance, that mares are lower before than stallions. What deceives us in the Giraffe, and occasions this apparent difference between the legs, is the height of the withers, which may exceed that of the crupper from sixteen to twenty inches, according to the age of the animal; and which, when it is seen at a distance in motion, gives the appearance of much greater length to the fore legs.

“If the Giraffe stand still, and you view it in the front, the effect is very different. As the fore part of its body is much larger than the hind part, it completely conceals the latter; so that the animal resembles the standing trunk of a deep tree.

“Its gait, when it walks, is neither awkward nor displeasing; but it is ridiculous enough when it

trots; for you would then take it for a limping beast, seeing its head, perched at the extremity of a long neck which never bends, swaying backwards and forwards, the neck and head playing in one piece between the shoulders as on an axis. However, as the length of the neck exceeds that of the legs at least four inches, it is evident that, the length of the head too taken into the account, it can feed without difficulty; and of course is not obliged either to kneel down or to straddle with its feet, as some authors have asserted³.

"Its mode of defence, like that of the horse and other solidungulous animals, consists in kicking with the heels. But its hind parts are so light, and its jerks so rapid, that the eye cannot follow them. They are even sufficient to defend it against the lion, though they are unable to protect it from the impetuous attack of the tiger.

"Its horns are never employed in fight. I did not perceive it use them against my dogs; and these weak and useless weapons would seem but an error of Nature, if Nature could ever commit error, or fail in her designs.

"In their youth, the male and female Giraffes resemble each other in their exterior. A knot of long hair then terminates their obtuse horns; this peculiarity the female preserves for some time, but at the age of three years the male loses it. At first, the hide is of a light red, but it deepens in colour as the animal advances in age, and, at length, it is of a yellow brown in the female, and of a brown bordering on black in the male. The male may,

³ It is, besides, unnecessary for the animal to kneel, as it feeds principally on the boughs of a species of acacia, which it draws down to its mouth with its long and flexible tongue.

even at a distance, be distinguished from the female by this difference of colour. As to the arrangement and form of the spots, the skin varies in both sexes. The female does not stand so high as the male, and the frontal prominence is less marked. She has four teats; and, according to the account given by the natives, she has one young one at a birth, with which she goes twelve months."

THE LLAMA.



It is very singular that, although the Llama and the Paco are domesticated in Peru, Mexico, and Chili, as the horse is in Europe, or the camel in Arabia, we scarcely know any thing of them. Peru, according to Gregory de Bolivar, is the true and native country of the Llamas; they are conducted into other provinces, as New Spain, &c. but this is

rather for curiosity than utility; but in Peru, from Potosi to Caracas, these animals are in great numbers, and make the chief riches of the Indians and Spaniards, who rear them. Their flesh is excellent food; their hair, or rather wool, may be spun into beautiful clothing; and they are capable of carrying heavy loads in the most rugged and dangerous ways; the strongest of them will travel with two hundred or two hundred and fifty pounds weight on their backs: their pace is but slow, and their journey is seldom above fifteen miles a day; but then they are sure, and descend precipices, and find footing among the most craggy rocks, where even men can scarcely accompany them; they commonly travel for five days together, when they are obliged to rest, which they do, of their own accord, for two or three days. They are chiefly employed in carrying the riches of the mines of Potosi. Bolivar affirms that, in his time, above three hundred thousand of these animals were in actual employ.

The growth of the Llama is very quick; and its life is but of short duration. This animal couples so early as at three years of age, and remains strong and vigorous till twelve; after which it begins to decline, and becomes entirely useless at fifteen. Their nature appears modelled on that of the Americans. They are gentle and phlegmatic, and do every thing with the greatest leisure and caution. When they stop on their journeys, they bend their knees very cautiously, in order to lower their bodies without disordering their load. As soon as they hear their driver whistle, they rise up again with the same precaution, and proceed on their journey; they feed, as they go along, on the grass they meet with in their way, but never eat in the night, making

use of that time to ruminate. The Llama sleeps, like the camel, with its feet folded under its belly, and ruminates in that posture. When overloaded or fatigued, it falls on its belly, and will not rise, though its driver strikes it with his utmost force.

The Llama is about four feet high; its body, comprehending the neck and head, is five or six feet long; its neck alone is near three feet. The head is small and well proportioned, the eyes large, the nose somewhat long, the lips thick, the upper divided, and the lower a little depending: it wants the incisive and canine teeth in the upper jaw. The ears are four inches long, and move with great agility. The tail is seldom above eight inches long, small, straight, and a little turned up at the end. It is cloven-footed, like the ox; but the hoof has a kind of spear-like appendage behind, which assists the animal to move and support itself over precipices and rugged ways. The back is clothed with a short wool, as is the crupper and tail; but it is very long on the belly and sides. These animals differ in colour; some are white, others black, but most of them brown.

These useful, and even necessary animals are attended with no expense to their masters; for, as they are cloven-footed, they do not require to be shod, nor do they require to be housed, as their wool supplies them with a warm covering. Satisfied with a small portion of vegetables and grass, they want neither corn nor hay to subsist them; they are still more moderate in what they drink, as their mouths are continually moistened with saliva, which they have in a greater quantity than any other animal. The natives hunt the *Guanacos*, or wild Llama, for the sake of its fleece. The dogs have much

trouble to follow them; and, if they do not come up with them before they gain the rocks, both the hunters and dogs are obliged to desist in their pursuit.

The Pacos are a subordinate kind to the Llamas, much in the same proportion as the ass is to the horse; they are smaller, and not so serviceable; but their fleece is more useful: their wool is fine and long, and is a sort of merchandise, as valuable as silk. The natural colour of the Pacos is that of a dried rose-leaf, which is so fixed that it undergoes no alteration under the hands of the manufacturers. They not only make good gloves and stockings of this wool, but also form it into quilts and carpets, which bring a higher price, and exceed those of the Levant.

The Pacos also resemble the Llamas in their form, excepting that their legs are shorter, and their muzzle thicker and closer. They inhabit and climb over the highest parts of the mountains. The snow and ice seem rather agreeable than inconvenient to them. When wild, they keep together in flocks, and run very swift; and, as soon as they perceive a stranger, they take flight, driving their young before them. The ancient monarchs of Peru rigorously prohibited the hunting of them, as they multiply but slowly; but, since the arrival of the Spaniards in these parts, their number is greatly decreased, so that at present there are very few remaining. The flesh of these animals is not so good as that of the Guanacos; and they are only sought after for their fleece, and the bezoar they produce. The method of taking them proves their extreme timidity, or rather their weakness. The hunters having driven the flock into a narrow passage, across which they have stretched a rope about four feet from the ground, with a number of pieces of linen or cloth hanging on it, the

animals are so intimidated at these rags agitated by the wind, that they stop, and, crowding together in a heap, the hunters kill great numbers of them with the greatest ease ; but if there are any Guanacos among the flock, which are less timid than the Pacos, they leap over the rope with great agility. The example is immediately followed by the whole flock, and they escape the stratagem of their pursuers.

With respect to the domestic Pacos, they are used to carry burdens, like the Llamas ; but, being smaller and weaker, they carry much less weight. They are likewise of a more stubborn nature ; and, when once they rest with their load, they will suffer themselves to be cut to pieces sooner than rise. The Indians have never made use of the milk of these animals, as they have scarcely enough to supply their own young. The great profit derived from their wool has induced the Spaniards to endeavour to naturalize them in Europe : they have transported them into Spain, in hopes to raise the breed in that country ; but, the climate not agreeing with their nature, not one of them lived. We are, nevertheless, persuaded that these animals, which are more valuable than the Llamas, might thrive upon our mountains, especially upon the Pyrenean. Those who brought them into Spain did not consider that they can exist, even in Peru, only in the cold regions ; that is, on the top of the highest mountains ; that they are never to be found in the valleys, and die if brought into hot countries ; that consequently, in order to preserve them, they should be landed, not in Spain, but in Scotland, and even in Norway, and with greater certainty at the foot of the Pyrenean, Alpine, or other mountains, where they might climb

and attain to the region that most agrees with their nature.

The Llama is in general a timid and docile animal. If teased or ill treated, however, they become spiteful. Their mode of manifesting their anger is singular; it consists in darting their saliva in considerable quantity upon the person who offends them. They will cover with it a surface of three or four yards in extent. In the wood cut one of the animals is represented in the act of thus showing his displeasure. It has been asserted that the saliva is venomous, but this is an error.

The Vicuna, the wool of which is very valuable, is smaller than the Llama; its limbs are more neatly formed, and it has no protuberance on the breast. It is of a reddish brown on the upper part of the body, and whitish on the lower.

"The Llamas (says the author of *The Menageries*) form a secondary group of camels, offering to the eye of the naturalist very small anatomical differences of construction from that of the camel, properly so called. The foot of the Llama is not, like that of the camel, covered with an elastic sole, which joins the two toes. From the absence of this entire sole, the species of South America is enabled to climb the precipices of the Andes, which are its native region, the toes having strong nails, each of which has a thick cushion, or pad, below. The Llama also wants the second canine tooth in the lower jaw; but this difference is not, by some, considered such as to require a separation of the genus—for deer, of various species, have the same deviation from the general type. Again, the absence of the hump in the Llama species is not an anatomical difference which constitutes a character; for, as the skeleton

of the Bactrian camel with two humps does not differ from that of the Arabian with one, so does the bones of the arrangement of the Llama agree precisely with the conformation of the camel. The zebu is an ox, although he has a hump. The ears of the Llama are longer, and the tail is shorter, than those of the camel. The similarities which determine the genus to which the camels and the Llamas belong, are principally these:—1. Each species has very remarkable peculiarities connected with the economy of their reproduction, in which they differ from all other animals. 2. The camel and the Llama differ also from every other species of the class of ruminating animals, in the want of horns, and in having two large incisive teeth on each side of the upper jaw. 3. The stomachs of the camel and the Llama are, in some degree, similarly constructed. Father Feuillée has described the stomach of the Llama; and maintains that it has not only a large reservoir for carrying water, but that, like the stomach of the camel, it has the same machinery for allowing the separation of solid from liquid aliment. Sir Everard Home, however, describes this portion of the Llama's stomach as only partially resembling that of the camel. He says, "the stomach has a portion of it, as it were, intended to resemble the reservoirs for water in the camel; but these have no depth, are only superficial cells, and have no muscular apparatus to close their mouths; and allow the solid food to pass into the fourth cavity, or truly digesting stomach, without going into these cells." But that the Llama has an internal mechanism for retaining water, or secreting a liquid substance, is certain; for, on the summits of the Andes, they are far above any lakes; and it has been observed that, in a state of

domestication, they never exhibit a desire to drink whilst they can obtain green pasture. 4. The Llama, according to Molina (*Storia Nat. del Chili*), has a conformation resembling the camel's hump, being provided with an excess of nutritive matter, which lies in a thick bed of fat under the skin, and is absorbed as a compensation for an occasional want of food. These remarkable similarities certainly warrant naturalists in classing the camel and the Llama in the same genus, although they differ both in size and form. They are each evidently fitted by nature for the endurance of great hardships and privations—the one amidst the sands of the desert, under a burning sun—the other on the wastes of some of the loftiest mountains of the world, with a region of perpetual snow above them. The slight variations in their conformation, such as that of the foot, are modifications of nature which fit them for their respective localities. A habitation among the rocks would be mechanically impossible for the camel; whilst the burning plains would be as little suited to the Llama. But each is adapted to exist in a very arid and sterile region; and their habits are created by their peculiar organization."



THE UNAU AND THE AI.

THESE two animals have the epithet of *Sloth* given to them both by most authors, on account of their slowness, and the difficulty with which they walk. The Unau, or two-toed Sloth, has no tail, and only two nails on the fore feet. The Ai, or three-toed Sloth, has a short tail, and three nails on every foot. The nose of the Unau is likewise much longer, the forehead higher, and the ears longer than those of the Ai. It differs also in the hair. As for its interior, its viscera are both formed and situated differently; but the most distinctive, and, at the same time, the most singular character, is, that the Unau has forty-six ribs, while the Ai has but twenty-eight. This alone supposes two species, quite distinct one from the other; and these forty-six ribs, in an animal whose body is so short, is a kind of excess or error in nature; for, even in the largest animals, and those whose bodies are relatively longer than they are thick, not one of them is found to have so many. The elephant has only forty, the dog twenty-six, and the human species twenty-four, &c. This difference in the construction of the Unau and the Ai supposes a greater distance between these two kinds than there is between that of the cat and the dog, which have the same number of ribs; for the external differences are nothing in comparison with the internal ones, which are the causes of the others. These animals have neither incisive nor canine teeth; their eyes are dull and heavy; their mouths wide and thick; their fur coarse and staring, and like dried grass; their thighs seem almost disjointed from the haunch; their legs very short, and badly

shaped; they have no soles to the feet, nor toes separately moveable, but only two or three claws excessively long, and crooked downwards and backwards. Unfurnished with teeth, they cannot seize any prey, nor feed upon flesh, nor even upon vegetable food. Reduced to live on leaves and wild fruits, they take up a long time in crawling to a tree, and are still longer in climbing up to the branches. During this slow and painful labour, which sometimes lasts many days, they are obliged to support the most pressing hunger; and when, at length, one of them has accomplished its end, it fastens itself to the tree, crawls from branch to branch, and, by degrees, strips the whole tree of its foliage. In this manner it remains several weeks, without moistening its dry food with any liquid; and when it has consumed the store, and the tree is entirely naked, yet unable to descend, it continues on it till hunger presses, and that becoming more powerful than the fear of danger or death, it drops, like a shapeless, heavy mass, to the ground, without being capable of exerting any effort to break the violence of its fall.

On the ground, these animals are exposed to all their enemies; and, as their flesh is not absolutely bad, they are killed by men and beasts of prey. They seem to multiply but little; or, if they produce very often, it is only a small number, as they are furnished but with two teats. Every thing concurs, therefore, to their destruction, and the species supports itself with great difficulty. It is true that, although they are slow, heavy, and almost incapable of motion, yet they are hardy, strong, and can abstain a long time from food: covered also with a thick and coarse fur, and unable scarcely to move, they

waste but little, and fatten by rest, however poor and dry their food is. Although they have neither horns on their heads, nor hoofs to their feet, nor incisive teeth in the lower jaw, they are, notwithstanding, among the number of ruminating animals, and have, like them, four stomachs; so that they, consequently, can compensate for the quality of their food by the quantity they take at a time; and what is still more singular is, that, instead of having, like other ruminating animals, very long intestines, theirs are very short, like those of the carnivorous kind.

Both these animals belong to the southern parts of the New Continent, and are never to be met with in the Old. The Unau, as well as the Ai, is to be met with in the deserts of America, from Brazil to Mexico; but they have never inhabited the northern countries. They cannot endure cold nor rain; the change from wet to dry spoils their fur, which then resembles badly dressed hemp, rather than wool or hair.

Such is the description given of the Sloth, by Buffon and other naturalists; and, judging of it from such a representation, it is not wonderful that the animal has become proverbial as one of the most sluggish and wretched of the whole brute creation. It happens, however, that this description of its habits and sufferings is sadly at variance with truth. Mr. Waterton, who, in his numerous and protracted journeys through the woods of South America, had abundant opportunities of studying the natural history of the Sloth, has shown the incorrectness of preceding writers upon this subject.

“ Let us turn our attention (says he) to the Sloth, whose haunts have hitherto been so little known,

and probably little looked into. Those who have written on this singular animal have remarked that he is in a perpetual state of pain; that he is proverbially slow in his movements; that he is a prisoner in space; and that, as soon as he has consumed all the leaves of the tree upon which he has mounted, he rolls himself up in the form of a ball, and then falls to the ground. This is not the case.

“If the naturalists who have written the history of the Sloth had gone into the wilds, in order to examine his haunts and economy, they would not have drawn the foregoing conclusions; they would have learned that, though all other quadrupeds may be described while resting on the ground, the Sloth is an exception to this rule, and that his history must be written while he is in the tree.

“This singular animal is destined by nature to be produced, to live, and to die, in the trees; and, to do justice to him, naturalists must examine him in his upper element. He is a scarce and solitary animal, and, being good food, he is never allowed to escape. He inhabits remote and gloomy forests, where snakes take up their abode, and where cruelly stinging ants and scorpions, and swamps, and innumerable thorny shrubs and bushes, obstruct the steps of civilized man. Were you to draw your own conclusions from the descriptions which have been given of the Sloth, you would probably suspect that no naturalist had actually gone into the wilds with the fixed determination to find him out and examine his haunts, and see whether Nature has committed any blunder in the formation of this extraordinary creature, which appears to us so forlorn and miserable, so ill put together, and so totally unfit to enjoy the blessings which have been so

bountifully given to the rest of animated nature; for, as it has formerly been remarked, he has no soles to his feet, and he is evidently ill at ease when he tries to move on the ground; and it is then that he looks up in your face with a countenance that says, 'Have pity on me, for I am in pain and sorrow.'

"It mostly happens that Indians and Negroes are the people who catch the Sloth, and bring it to the white man. Hence it may be conjectured that the erroneous accounts we have hitherto had of the Sloth have not been pinned down with the slightest intention to mislead the reader, or give him an exaggerated history, but that these errors have naturally arisen by examining the Sloth in those places where Nature never intended that he should be exhibited.

"However, we are now in his own domain. Man but little frequents these thick and noble forests, which extend far and wide on every side of us. This, then, is the proper place to go in quest of the Sloth. We will first take a near view of him. By obtaining a knowledge of his anatomy, we shall be enabled to account for his movements hereafter, when we see him in his proper haunts. His fore legs, or, more correctly speaking, his arms, are apparently much too long, while his hind legs are very short, and look as if they could be bent almost to the shape of a corkscrew. Both the fore and hind legs, by their form, and by the manner in which they are joined to the body, are quite incapacitated from acting in a perpendicular direction, or in supporting it on the earth, as the bodies of other quadrupeds are supported, by their legs. Hence, when you place him on the floor, his belly touches

the ground. Now, granted, that he supported himself on his legs like other animals, nevertheless he would be in pain, for he has no soles to his feet, and his claws are very sharp and long, and curved; so that, were his body supported by his feet, it would be by their extremities; just as your body would be were you to throw yourself on all fours, and try to support it on the ends of your toes and fingers—a trying position. Were the floor of glass, or of a polished surface, the Sloth would actually be quite stationary; but as the ground is generally rough, with little protuberances upon it, such as stones, or roots of grass, &c. this just suits the Sloth, and he moves his fore legs in all directions, in order to find something to lay hold of; and when he has succeeded, he pulls himself forward, and is thus enabled to travel onwards, but, at the same time, in so tardy a manner as to acquire him the name of Sloth.

“Indeed, his looks and his gestures evidently betray his uncomfortable situation; and, as a sigh every now and then escapes him, we may be entitled to conclude that he is actually in pain.

“Some years ago I kept a Sloth in my room for several months. I often took him out of the house, and placed him upon the ground, in order to have an opportunity of observing his motions. If the ground were rough, he would pull himself forwards by means of his fore legs, at a pretty good pace, and he invariably shaped his course towards the nearest tree. But if I put him upon a smooth and well trodden part of the road, he appeared to be in trouble and distress: his favourite abode was the back of a chair; and, after getting all his legs in a line upon the topmost part of it, he would hang there for hours together, and often, with a low and

inward cry, would seem to invite me to take notice of him.

“The Sloth, in its wild state, spends its whole life in the trees, and never leaves them but through force or accident. An all-ruling Providence has ordained man to tread on the surface of the earth, the eagle to soar in the expanse of the skies, and the monkey and squirrel to inhabit the trees: still these may change their relative situations without feeling much inconvenience; but the Sloth is doomed to spend his whole life in the trees; and, what is more extraordinary, not *upon* the branches, like the squirrel and the monkey, but *under* them. He moves suspended from the branch, he rests suspended from it, and he sleeps suspended from it. To enable him to do this, he must have a very different formation from that of any other known quadruped.

“Hence, his seemingly bungled conformation is at once accounted for; and, in lieu of the Sloth leading a painful life, and entailing a melancholy and miserable existence on its progeny, it is but fair to surmise that it just enjoys life as much as any other animal, and that his extraordinary formation and singular habits are but further proofs to engage us to admire the wonderful works of Omnipotence.

“It must be observed, that the Sloth does not hang head downwards like the vampyre. When asleep, he supports himself on a branch parallel to the earth. He first seizes the branch with one arm, and then with the other; and, after that, brings up both his legs, one by one, to the same branch; so that all four are in a line: he seems perfectly at rest in this position. Now, had he a tail, he would be at a loss to know what to do with it in this position: were he to draw it up with his legs, it would interfere

with them; and were he to let it hang down, it would become the sport of the winds. Thus his deficiency of tail is a benefit to him; it is merely an apology for a tail, scarcely exceeding an inch and a half in length.

“ I observed when he was climbing, he never used his arms both together, but first one and then the other, and so on alternately. There is a singularity in his hair, different from that of all other animals, and, I believe, hitherto unnoticed by naturalists; his hair is thick and coarse at the extremity, and gradually tapers to the root, where it becomes fine as the finest spider's web. His fur has so much the hue of the moss which grows on the branches of the trees, that it is very difficult to make him out when he is at rest.

“ The male of the three-toed Sloth has a longitudinal bar of very fine black hair on his back, rather lower than the shoulder-blades; on each side of this black hair there is a space of yellow hair, equally fine; it has the appearance of being pressed into the body, and looks exactly as if it had been singed. If we examine the anatomy of his fore legs, we shall immediately perceive by their firm and muscular texture, how very capable they are of supporting the pendent weight of his body, both in climbing and at rest; and, instead of pronouncing them a bungled composition, as a celebrated naturalist has done, we shall consider them as remarkably well calculated to perform their ordinary functions.

“ As the Sloth is an inhabitant of forests within the tropics, where the trees touch each other in the greatest profusion, there seems to be no reason why he should confine himself to one tree alone for food,

and entirely strip it of its leaves. During the many years I have ranged the forests, I have never seen a tree in such a state of nudity; indeed I would hazard a conjecture, that by the time the animal has finished the last of the old leaves, there would be a new crop on the part of the tree he had stripped first, ready for him to begin again, so quick is the process of vegetation in these countries.

“ There is a saying among the Indians, that when the wind blows, the Sloth begins to travel. In calm weather he remains tranquil, probably not liking to cling to the brittle extremity of the branches, lest they should break with him in passing from one tree to another; but as soon as the wind rises, the branches of the neighbouring trees become interwoven, and then the Sloth seizes hold of them, and pursues his journey in safety. There is seldom an entire day of calm in these forests. The trade wind generally sets in about ten o'clock in the morning, and thus the Sloth may set off after breakfast, and get a considerable way before dinner. He travels at a good round pace; and were you to see him pass from tree to tree, as I have done, you would never think of calling him a Sloth.

“ Thus it would appear that the different histories we have of this quadruped are erroneous on two accounts: first, that the writers of them, deterred by difficulties and local annoyances, have not paid sufficient attention to him in his native haunts; and, secondly, they have described him in a situation in which he was never intended by nature to cut a figure, I mean on the ground. The Sloth is as much at a loss to proceed on his journey upon a smooth and level floor, as a man would be who had to walk a mile in stilts upon a line of feather-beds.

“ One day, as we were crossing the Essequibo, I saw a large two-toed Sloth on the ground upon the bank ; how he got there nobody could tell : the Indian said he had never surprised a Sloth in such a situation before ; he would hardly have come there to drink, for both above and below the place, the branches of the trees touched the water, and afforded him an easy and safe access to it. Be this as it may, though the trees were not above twenty yards from him, he could not make his way through the sand time enough to escape before we landed. As soon as we got up to him, he threw himself on his back, and defended himself in gallant style with his fore legs. ‘ Come, poor fellow,’ said I to him, ‘ if thou hast got into a hobble to day, thou shalt not suffer for it : I’ll take no advantage of thee in misfortune ; the forest is large enough both for thee and me to rove in : go thy ways up above, and enjoy thyself in these endless wilds ; it is more than probable thou wilt never have another interview with man. So, fare thee well.’ On saying this, I took up a large stick which was lying there, held it for him to hook on, and then conveyed him to a high and stately mora. He ascended with wonderful rapidity, and in about a minute he was almost at the top of the tree. He now went off in a side direction, and caught hold of the branch of a neighbouring tree ; he then proceeded towards the heart of the forest ; I stood looking on, lost in amazement at his singular mode of progress. I followed him with my eye till the intervening branches closed in betwixt us ; and then I lost sight for ever of the two-toed Sloth. I was going to add, that I never saw a Sloth take to his heels in such earnest ; but the expression will not do, for the Sloth has no heels.”

THE SURIKAT.

THIS animal is a native of the Cape of Good Hope and of Java. It is very lively and subtle; it sometimes walks on its hinder legs, and often sits upright on them, with its fore paws hanging down by the side of the body. Its head is then erect, and moves upon the neck as on a pivot. It is not so large as a rabbit, and nearly resembles the marmose in size; its tail is somewhat longer, and its snout is more prominent and raised. It is more like the coati than any other animal. Its character likewise is nearly original, since it neither belongs to the coati nor the hyæna. These two are the only animals who have four toes to every foot.

This animal eats raw meat with eagerness, and particularly poultry and mice. It is a great enemy to the cockroach. It is fond of fish, and still more of eggs. It will eat neither fruit nor bread. It makes use of its fore feet, like the squirrel, to carry its food to its mouth; it laps its drink like a dog, and will not touch water, unless it is lukewarm. Of one in the French king's collection, its common drink was its own urine, although of a very strong smell. It did not chew its food, but often scratched the brick or plastered walls with its nails. It was so well tamed, that it answered to its name when called; it went about the house like a cat, and had two voices; one like the barking of a young dog, when it was left long alone, or heard an unusual noise; on the contrary, when it was caressed, or when it showed some token of pleasure, it made a noise as strong as that of a rattle briskly turned. It was a female animal, and only lived one winter, notwithstanding all the care that was taken to feed and keep it warm.

THE TARSIER

Is an animal remarkable for the length of its hind legs, which are longer than the rest of its whole body. The bones of the feet, and especially those which compose the upper part of the tarsus, are of an extraordinary size; and it is from this very character we have taken its name. It has five toes to every foot; it has, as I may say, four hands; for the toes are very long, and sufficiently divided: the largest of those behind, or the thumb, is terminated by a flat claw; and, although the claws of the other toes are pointed, they are, at the same time, so short and so small, that they do not prevent the animal from using its fore feet like hands. The jerboa, on the contrary, has only four toes, and four long and crooked claws, on its fore feet: and, instead of a thumb, it has only a tubercle without any claw: but, what removes it farther from our Tarsier, is, that it has only three fingers, or three great claws, on the hind feet. The Tarsier is found in some remote islands of India; particularly in Amboyna. One species is a native of Madagascar.

THE PHALANGER.

THESE animals, which have been sent to us by the name of *Surinam Rats*, have much less affinity with rats, than with the animals of the same climate of which we have given the history, under the names of the *marmose* and *cayopollin*. As it has never been named by any artist or traveller, we have denominated it from its character, which is totally different from that of any other animal, and have

called it *Phalanger* from its *phalanges* being singularly formed, and because its two fore toes are conjoined in such a manner, that this double toe appears like a hoof, separated only near the claws; the thumb is separated from the fingers, and has no claw at its extremity.



These animals vary in the colour of the hair; some species are about the size of a small rabbit, or a very large rat, and are remarkable for the excessive length of their tail, snout, and the form of their teeth, which alone is sufficient to distinguish the Phalanger from the marmose, the surikat, the rat, and every other species of animals to which it may be supposed to relate. The Fox Phalanger, to which White gives the name of the Vulpine Opossum, is more than three feet and a half in length. The Dwarf Phalanger, on the contrary, which is found on an island near Van Dieman's Land, is not larger than a mouse.

THE COQUALLIN.

THIS animal was sent from America, by the name of the *Orange-coloured Squirrel*. It is, however, not a squirrel, although sufficiently resembling it by the shape of the tail; for it not only differs by many

external characters, but also by its nature and manners.

The Coquallin is much larger than the squirrel ; it is a beautiful animal, and very remarkable for its colour, its belly being of a fine yellow, and its head, as well as body, varied with white, black, brown, and orange ; it covers its back with its tail, like the squirrel, but has not, like that animal, small brushes of hair at the tips of the ears : it never climbs up any trees, but dwells in the hollows and under the roots of trees, like the garden squirrel. In such places, it builds its nest, and rears up its young ; it likewise stores its little habitation with corn and fruit, to feed on during the winter ; it is a jealous and cunning animal, and so exceedingly wild, that it is impossible to be tamed.

The Coquallin is only found in the southern parts of America ; the white and orange coloured squirrels of the East Indies are much smaller, and their colours uniform. These are true squirrels, which climb up trees, and produce their young on them ; while the Coquallin, and the American suisse, burrow under ground, like rabbits, and have no other affinity with the squirrel, than a resemblance in the external form. M. Frederic Cuvier considers it as nothing more than a variety of the *sciurus capistratus*.

THE HAMSTER RAT.

THIS animal, which is also called the German Marmot, is about the size of the brown rat, but much thicker. Its colour is reddish brown above, and black beneath ; there are three large oval white spots on each side of the body. The ears are somewhat

large. But the peculiarity which distinguishes it is, that there are two pouches or receptacles for food on each side of its mouth. These are not visible externally when empty; but, when distended, they resemble a pair of tumid bladders, with a smooth veiny surface, which the fur of the cheeks conceals. The pouches of one which Dr. Russel dissected were found stuffed with French beans, arranged lengthways, in such compact and accurate order, that it was exceedingly difficult to conceive how they had been so placed. When loosely laid on a table, they formed a heap thrice the bulk of the animal's body. Austria, Silesia, and some parts of Germany, are their native places.

The Hamster is one of the most famous and most pernicious rats that exist. We have fed one of these animals for many months, says Buffon, and afterwards had it dissected, and observed, that the Hamster resembled more the water rat, than any other animal; it resembled it also in the smallness of its eyes, and the fineness of its hair; but its tail is not so long as that of a water rat; but, on the contrary, it is much shorter than that of the short-tailed mouse. All these animals live under the earth, and seem to be animated with the same instinct; they have nearly the same habits, and particularly that of collecting corn, &c. and making great magazines in their holes.

The habitations of the Hamsters are different, according to their sex and age, and also to the quality of the land they inhabit. That of the male Hamster is an oblique passage, and at the entrance is a portion of earth thrown up. At a distance from the entrance, there is a single hole, which descends in a perpendicular manner to the chambers or cavi-

ties of the habitation. There is no hillock of earth near that hole; which makes us presume, that the oblique entrance is made hollow from the outside, and that the perpendicular hole, by which they come out, is worked withinside, from the bottom to the top.

The habitation of the female has also an oblique passage, with two or three, and even eight perpendicular holes, by which the young ones may come in and go out. The male and the female have each their separate abode: that of the female is deeper than that of the male.

The perpendicular hole is the common passage for coming in and going out. By the oblique road, they throw out the earth they scratch up. This passage also has a gentle declivity into some of the cavities, and another more steep into others which serve for a free circulation of the air in this subterraneous habitation. The cavity where the female breeds her young contains no provision, but only a nest formed of straw or grass. The depth of the cavity is very different. The young Hamster, of a year old, makes its burrow only a foot deep, while the old animal often hollows it to the depth of four or five feet. All the cavities communicate together in one habitation, which is about eight or ten feet in diameter.

These animals store their magazines with dry clover, corn, and other grain; beans and peas they likewise provide themselves with; all these they are particularly careful to separate from the husk, which, with every other matter they do not make use of, they carry out of their habitation by this oblique passage.

The Hamster commonly gets in its winter pro-

visions at the latter end of August. Its stores are not meant for a winter supply, it being torpid at that season, but for the preceding and following period. When it has filled its magazines, it covers them over, and shuts the avenues to them carefully with earth. This precaution renders the discovery of these animals very difficult. The heaps of earth which they throw up before the oblique passage, are the only marks to trace their habitations. The most usual method of taking them is by digging them out of their holes, which is attended with much trouble, on account of the depth and extent of their burrows; however, a man versed in this business, commonly effects his purpose with good success. In autumn, he seldom fails of finding two good bushels of corn in each of their habitations; and he draws great profit from the skins of the animals. The Hamsters bring forth their young two or three times in a year, and seldom less than five or six each time. Some years there are great numbers of them to be seen, and in others, scarcely any to be met with. They multiply in great numbers when the seasons are wet, which causes a great scarcity of grain, by the devastation these animals make.

The back of the Hamster is commonly brown, and the belly black; however, there are some of a gray colour; and this difference may proceed from their age. Besides these, there are some often met with which are entirely black.

The Hamster begins to burrow at the age of six weeks, or two months; it never procreates, however, in the first year of its growth. There are numbers produced in one year, insomuch, that, in some parts of Germany, from their occasioning a dearth of corn, a reward is fixed on their heads. In one year, about

eleven thousand skins, in another fifty-four thousand, and in a third year eighty thousand, were produced at the Town Hall of Gotha, as vouchers to enable the bearers to receive the reward. They are likewise in such great numbers, that their fur is sold exceedingly cheap.

The polecat is a great enemy to the Hamsters, which he destroys in a great number; he not only pursues them on land, but follows them into their burrows, and feeds on them there.

The Hamster itself is one of the most inveterate enemies of its own kind. His life (says a recent naturalist) is divided between eating and fighting. He seems to have no other passion than that of rage; which induces him to attack every animal that comes in his way, without in the least attending to the strength of the enemy. Ignorant of the art of saving himself by flight, rather than yield he will allow himself to be beaten in pieces with a stick. If he seizes a man's hand, he must be killed before he will quit his hold. The magnitude of the horse terrifies him as little as the address of the dog, which last is fond of hunting him. When the Hamster perceives a dog at distance, he begins by emptying his cheek-pouches, if they happen to be filled with grain: he then blows them up so prodigiously, that the size of his head and neck greatly exceeds that of the rest of the body. He raises himself on his hind legs, and thus darts upon the enemy. If he catches hold, he never quits his foe but with the loss of life. This ferocious disposition prevents the Hamster from being at peace with any animal whatever. He even makes war against his own species. When two Hamsters meet, they never fail to attack each other, and the stronger always devours the

weaker. A combat between a male and female commonly lasts longer than that between two males. They begin by pursuing and biting each other; then each of them retires aside, as if to take breath. After a short interval they renew the combat, and continue to fight till one of them falls.

THE BOBAC, AND OTHER MARMOTS.

THE name of the *Strasbourg Marmot* has been affixed to the hamster, and that of the *Poland Marmot* to the Bobac: but, it is certain, that the hamster is not a Marmot; and it is also probable, that the Bobac is one, as it only differs from the Marmot of the Alps, by the colour of its fur, which is not quite so gray. There is a great claw, or toe, to the fore feet of the hamster, while the Marmot has only four toes to each foot; but in other respects it perfectly resembles it. It is the same with respect to the Canadian Marmot, or Monax, which some travellers have termed the *Whistler*. It only seems to differ from the Marmot by the tail, which is thicker of hair.

The Bobac constructs burrows obliquely in the ground, of the depth of two, three, or four yards, and consisting of several galleries. Where the soil is hard or rocky, thirty or forty animals work in concert. Towards the approach of winter, they fill their burrows with the finest hay. They are good natured and timid, but when driven to defend themselves they bite severely. It is easy to tame them.

The Canadian Monax, the Poland Bobac, and the Alpine Marmots, are, indeed, probably all the same kind of animal, under different denominations. As this species prefers the coldest and highest moun-

tains in Poland, Russia, and other parts of the north of Europe, no wonder it is found in Canada, where it is only somewhat less than in Europe.

The Siberian animal also, called by the Russians *Jevras Chka*, is a kind of Marmot, still less than the Canadian Monax.

JERBOA



Is a generical name, which we make use of in this place, to denote those remarkable animals whose legs are extremely disproportionate. In many particulars, both of habit and conformation, the Jerboa bears a striking resemblance to the kangaroo tribe, though, according to the Linnæan system, it does not class with it. Like the kangaroo, it has long hind legs, which it uses in leaping. It seldom goes on all fours; and its fore legs, which are very short, are almost wholly employed in holding its food, and in making its burrows. There are four distinct species or varieties of this kind. First, the *Tarsier*, of which we have already spoken, and which is certainly a particular species, as its toes are made like those of a monkey, having five on each foot. Secondly, the *Jerboa*, whose feet are like the *fissipedes*,

with four claws on those before, and three on those behind. Thirdly, the *Alagata*, whose feet are formed like those of the Jerboa, with this difference, that they have five toes on the fore, and three on the hinder feet, with a spur or a kind of thumb, or a fourth toe, much shorter than the other. Fourthly, the *Daman Israel*, or *Lamb of Israel*, which has four toes to the fore feet, and five to the hinder, which may possibly be the same animal which Linnæus has described by the name of *Mus Longipes*.

The head of the Jerboa is sloped somewhat in the manner of a rabbit; but the eyes are larger, and the ears shorter, though elevated and open, with respect to its size; its nose and hair are of a flesh colour, its mouth short and thick, the orifice of the mouth very narrow, the upper jaw very full, the lower narrow and short, the teeth like those of the rabbit; the mustachoes are composed of long black and white hairs; the fore feet are very short, and never touch the ground; they are furnished with four claws, which are only used as hands to carry the food to the animal's mouth; the hind feet have but three claws, the middle one longer than the other two; the tail is three times as large as its body, and is covered with short stubborn hair, of the same colour as that on the back, but tufted at the end with longer and softer hair; the legs, nose, and eyes are bare, and of a flesh colour; the upper part of the head and back are covered with an ash-coloured hair; the sides, throat, and belly are whitish; and below the loins, and near the tail, there is a large, black, transversal band, in form of a crescent. While leaping, the Jerboa stretches out its tail, but while standing or walking, it carries it in the form of an S, the lower part touching the ground.

These little animals commonly conceal their hands, or fore feet, with their hair; so that they are said by some to have only hinder feet. When they move from one place to another, they do not walk, that is, advance one foot before the other, but jump, or bound, about four or five feet at a time: this they do with the greatest ease and swiftness, holding themselves erect, after the manner of birds when they hop on the ground. Instead, however, of proceeding straight forward, it jumps first to one side, and then to the other. Such is its agility, that even a greyhound can scarcely kill it. They rest themselves in a kneeling posture, and only sleep in the day. In the night time, they seek for their food like hares, and, like them, feed on grass, corn, and other grain. They are of a gentle nature, but not to be tamed beyond a certain limit. They burrow like rabbits, and in much less time. The excavations which it forms are many yards long, oblique, and winding, but not more than half a yard from the surface of the ground. It is fond of warmth, making its nest of the finest and most delicate herbage; and seems sensible of the approach of bad weather by wrapping itself up close in hay, with its head between its thighs. It sleeps during winter, without nutriment. The Jerboa breeds several times in the summer, and usually brings forth seven or eight young ones at a litter. The flesh is reckoned one of the greatest of delicacies by the Arabs. They are found in Syria, Phœnicia, Barbary, &c.

THE ICHNEUMON.



FROM the tip of the nose to the end of the tail, the Ichneumon is from twenty-four to forty-two inches length; nearly half of which is occupied by the tail. At the base, the tail is very thick; it tapers gradually towards the point, which is slightly tufted. The eyes are of a bright red; the ears almost naked, small and rounded: the nose is long and slender. The legs are short. The hair is hard and coarse, and of a pale reddish gray, each hair being mottled with brown or mouse colour.

This animal is domestic in Egypt, like our cat; and, like that, is serviceable in destroying rats and mice: but its inclination for prey and its instinct are much stronger and more extensive than the cat's; for it hunts alike birds, quadrupeds, serpents, lizards, and insects; it attacks every living creature in general, and feeds entirely on animal flesh; its courage is equal to the sharpness of its appetite; it is neither frightened at the anger of the dog, nor the malice of the cat, nor even dreads the bite of the serpent: it pursues them with eagerness, and seizes on them, however venomous they may be. As soon as it begins to feel the impressions of their venom, it immediately goes in search of antidotes, and particularly a root that the Indians call by its name, and which,

they say, is one of the most powerful remedies in nature against the bite of the viper. It sucks the eggs of the crocodile, as well as those of fowls and birds; it also kills and feeds on young crocodiles, when they are scarcely come out of their shell; and, as fable commonly accompanies truth, it has been currently reported; that, by virtue of this antipathy, the Ichneumon enters the body of the crocodile, when it is asleep, and never quits it till he has devoured its entrails. It was formerly deified by the Egyptians, for its serviceable qualities.

Naturalists have supposed many kinds of Ichneumons, because there are some larger than others, and of a different coloured hair; but, if we consider, that, being frequently reared in houses, they have, like other domestic animals, undergone varieties, we shall readily perceive, that this diversity of colour, and this difference of size, only indicate simple varieties, not sufficient to constitute a separate species. It also appears that the Ichneumons in Egypt, which may be said to be domestic, are longer than those in India, which are in a wild state.

The Ichneumon lives very willingly by the sides of rivers, inundations, and other waters, and is reported to swim and dive occasionally, like an otter, and to remain for a considerable time beneath the liquid element. It quits its habitation to seek its prey near habitable places. It sometimes carries its head erect, foreshortens its body, and raises itself upon its hind legs; at other times, it creeps and lengthens itself like a serpent; it often sits upon its hind feet, and often springs upon its prey; its eyes are lively, and full of fire; its aspect is beautiful, the body very active, the legs short, the tail thick and very long, and the hair rough and bristly. Both

male and female have a remarkable orifice, independent of the natural passages. It is a kind of pocket, into which an odoriferous liquor filters. They pretend, that it opens this bag, or pocket, to refresh itself when too hot. Its nose is very sharp, and its mouth narrow, which prevents it from seizing and biting any thing very large; but this defect is amply supplied by its agility, courage, and by its power; it very easily strangles a cat, although much larger and stronger than itself; it often fights with dogs; and, of whatever size they are, it commonly gets the better of them. It may easily be domesticated, and is then more tame, obedient, and affectionate than a cat.

THE GRAY ICHNEUMON,



WHICH is the Nems of Buffon, is a native of India, though he erroneously assigns Africa as the country to which it belongs. It is of a pale gray, the hairs

being for the major part of a dirty yellowish white, relieved by narrow rings of brown towards their extremities. The head and limbs are of a darker hue than the other parts. A specimen of this animal is now in the menagerie of the Tower. It possesses all the characteristic spirit and activity of the genus to which it belongs. On one occasion a dozen full grown rats were let loose in a room sixteen feet square, all of which this individual killed in little more than a minute.



THE VANSIRE.

THOSE who have spoken of this animal have taken it for the ferret, which indeed it resembles in many respects, though it differs from it by characters strong enough to make it a distinct species. It is now arranged among the ichneumons. The Vansire has twelve teeth, or grinders, in its upper jaw, while the ferret has only eight. The Vansire also differs in the colour of its hair from all ferrets; although like every other animal which man is careful of rearing and increasing, those creatures vary much, both male and female. It is found at the Mauritius,

and at Madagascar, by the natives of which latter island it is called Vohang-shira.

The animal called by some the *Weasel of Java*, and by others the *Ferret of Java*, is a kindred species to the Vansire.

THE FOSSAN



Is called by some travellers the *Genet of Madagascar*; but it is, in general, much smaller than the genet; and what proves it not to be of that kind, is, that it has no odoriferous bag, the essential attribute belonging to that animal. It has a slender body, covered with hair of an ash colour, mixed with tawny. The sides of the face are black; at the hind part of the head are four black lines, extending from thence towards the shoulders; the tail is long, and annulated with black. Its manners are much like those of our polecat; and, when the male Fossan is in heat, it emits a very strong smell like musk. It eats both flesh and fruit, but prefers the last, particularly bananas. It is a very wild animal, and very difficult to be tamed. The eye of the Fossan represents a black globe, very large in comparison with the size of its head, which gives this animal a mischievous look. It is a native of Madagascar, Guinea, Cochinchina, and the Philippine Isles. It is called the Berba in Guinea.

THE MAKI.

THIS name of Maki has been given to many different kinds of animals. The first class is the Mocoek, or Macauco ; the second is the Mongoos, commonly called the *Brown Maki* ; and the third kind is the Vari, called by some the *Pied Maki*. They all have a considerable analogy with the monkey tribe, though they differ from it in some essential particulars. Like the monkeys, they belong to the quadrumana.

The *Macauco* (which is the ring-tailed lemur of Shaw) is a beautiful animal, remarkable for the largeness of its eyes, and the length of the hinder legs, which by far exceed those before ; by its beautiful and long tail, which is continually elevated and in motion, and upon which are upwards of thirty rings, alternately black and white, all very distinct and separate one from the other. It is gentle ; and, although it greatly resembles the monkey in many particulars, it is not so malicious in its nature. It is a gregarious animal, commonly found in company in its natural state ; in Madagascar, thirty or forty are seen herding together. It sleeps in a sitting posture, with its snout resting upon its breast ; its body is no thicker than that of a cat ; but is longer ; and it appears larger, as the legs of the animal are very long. The hair is soft, and stands upright.

The *Mongoos* is less than the Macauco ; but its hair is, like that, of a short and silken nature ; but a little curled ; the nose is also thicker, and much resembling that of the Vari. We had a Mongoos in our possession for several years ; its coat was of a

brown colour, the eyes yellow, the nose black, and the ears short. It had a custom of playing with and biting its tail, and had, by this method, lessened it by four or five of the last vertebræ. Whenever it got loose, it visited the shops in the neighbourhood, and would make free with fruit, sugar, sweetmeats, &c. to obtain which it would open the boxes. At such times, it was difficult to retake it; and it would bite those that attempted it, even its keeper.

The *Vari* (which is the lemur macaco of *Linnaeus*) is much larger, stronger, and wilder than the *Macauco*, and is said to be even exceedingly *savage* and mischievous in its free state. Travellers tell us, that these animals are as furious as tigers, and very difficult to be tamed; and that its voice is so very loud, that, when there are only two together in the woods, it might be imagined that the noise they made proceeded from a hundred. Others, however, with more appearance of truth, describe it as of a mild and indolent disposition. Its hair, in general, is much longer than that of the *Macauco*; and it has a kind of ruff round the neck, consisting of very long hair. In other respects, its hair is black and white, and, although very long, stands nearly upright; its snout is thicker and longer than that of the *Macauco*; its ears much shorter, and edged with long hair; and its eyes are of so deep an orange colour, that, if not minutely inspected, they appear to be red.

The *Macauco*, the *Mongoos*, and the *Vari*, are all of the same country. They seem to be confined to Madagascar and the neighbouring islands.

THE WHITE HEADED MONGOOS.



Of this variety of the Mongoos there are now a male and female in the Tower Menagerie. "It is characterized (says Mr. Bennett) by the clear fulvous brown colour of the upper surface of the body and outer side of the limbs, gradually becoming lighter on the under and inner surfaces, and deepening in its shade towards the tail, the greater part of which is nearly black. The muzzle and the hands are bluish black. The male has the whole of the forehead, the sides of the cheeks, and the under part of the lower lip covered with a white fur, which in the female is of a blackish gray, and much less developed; her general colour is also of a lighter tinge. This remarkable difference would lead us to question the specific identity of the two animals, were we not assured by M. F. Cuvier, that he had verified the fact by what is usually regarded as an unequivocal

test. Mr. M'Leay has, however, thrown considerable doubt upon the accuracy of the inference thus attempted to be drawn, by exhibiting to the Linnæan Society a female, in whom the white fur of the head was as distinctly developed as in her male companion. The whole of the species of this group require, in fact, an accurate revision."

The manners and habits of the Mongoos tribe are thus described by the same accurate and entertaining writer:—"The whole of the genus are natives of Madagascar and of two or three of the smaller islands in its immediate vicinity. They appear to occupy in that remarkable and very imperfectly known country the place of the monkeys, none of which have yet been detected within its precincts. They are said to live in numerous troops, upon the trees, and to feed upon fruits and insects; but their habits in a state of nature have not yet been observed with sufficient accuracy to enable us to form any clear idea of their mode of existence. In captivity, they are particularly tame, and good tempered, fond of being noticed, delighting in motion, and climbing and leaping with surprising agility. They are, however, in some degree nocturnal; and when undisturbed pass a considerable portion of the day in sleep. If alone, they roll themselves up in the form of a ball, and wind their long tail in a very curious manner round their body, apparently for the purpose of keeping themselves warm; for they are naturally chilly, and delight in basking in the rays of the sun, or in creeping as close as possible to the fire. When two of them are confined together, they interlace their limbs and tails after a singular fashion, and placing their heads in such a position as that each may, if disturbed, see what is going on behind the other's back, fall comfortably asleep."

THE BENGAL LORIS,
OR SLOW LEMUR.

THE Lemurs are closely allied to the monkeys, by their habits and their hand-like paws. It is in the shape of the head, which has some resemblance to that of the dog, and in the great length of their hind legs, that they chiefly differ from them. So long are the hind legs, that, when the animals walk on all fours, their shoulders are much less elevated than their haunches. In climbing trees this is of great advantage to them. Many of them are exceedingly active, and leap from branch to branch with a rapidity which almost baffles the eye to follow.

Not so, however, the Bengal Loris, which is so sluggish in its motions, that some have been erroneously induced to consider it as a sloth. It is about the size of a small cat, and has a flattish face, a nose rather sharp, and extremely prominent eyes; it is of a pale brown or mouse colour; round the eyes is a circle of dark brown, and along the middle of the back runs a stripe of the same colour. During the greatest part of the day it sleeps, or at least lies without motion.

One of these animals is described by the late Sir William Jones, in the fourth volume of the Asiatic Researches. "In his manners (says he) he was for the most part gentle, except in the cold season, when his temper seems wholly changed; and his Creator who made him so sensible of cold, to which he must often have been exposed even in his native forests, gave him, probably for that reason, his thick fur; which we rarely see on animals in these tropical

climates. To me, who not only constantly fed him, but bathed him twice a week in water accommodated to the seasons, and whom he clearly distinguished from others, he was at all times grateful; but when I disturbed him in winter he was usually indignant, and seemed to reproach me with the uneasiness which he felt, though no possible precautions had been omitted to keep him in a proper degree of warmth. At all times he was pleased at being stroked on the head and throat, and he frequently suffered me to touch his extremely sharp teeth: but his temper was always quick; and when he was unseasonably disturbed, he expressed a little resentment, by an obscure murmur, like that of a squirrel; or a greater degree of displeasure by a peevish cry, especially in winter, when he was often as fierce, on being much importuned, as any beast of the woods.

“ From half an hour after sunrise to half an hour before sunset, he slept without intermission, rolled up like a hedgehog; and, as soon as he awoke, he began to prepare himself for the labours of *his* approaching day, licking and dressing himself like a cat; an operation which the flexibility of his neck and limbs enabled him to perform very completely: he was then ready for a slight breakfast, after which he commonly took a short nap; but when the sun was quite set, he recovered all his vivacity.

“ His ordinary food was the sweet fruit of this country; plantains always, and mangoes during the season; but he refused peaches, and was not fond of mulberries, or even of guavas: milk he lapped eagerly, but was content with plain water. In general he was not voracious, but he never appeared satisfied with grasshoppers; and passed the whole

night, while the hot season lasted, in prowling for them. When a grasshopper, or any insect, alighted within his reach, his eyes, which he fixed on his prey, glowed with uncommon fire; and, having drawn himself back, to spring on it with greater force, he seized the prey with both his fore paws, but held it in one of them while he devoured it. For other purposes, and sometimes even for that of holding his food, he used all his paws indifferently as hands, and frequently grasped with one of them the higher parts of his ample cage, while his three others were severally engaged at the bottom of it; but the posture of which he seemed fondest was to cling with all four of them to the wires, his body being inverted. In the evening, he usually stood erect for many minutes, playing on the wires with his fingers, and rapidly moving his body from side to side, as if he had found the utility of exercise in his unnatural state of confinement.

“A little before daybreak, when my early hours gave me frequent opportunities of observing him, he seemed to solicit my attention; and if I presented my finger to him, he licked or nibbled it with great gentleness, but eagerly took fruit when I offered it; though he seldom ate much at his morning repast: when the *day brought back his night*, his eyes lost their lustre and strength, and he composed himself for a slumber of ten or eleven hours.

“My little friend was, on the whole, very engaging; and when he was found lifeless, in the same posture in which he would naturally have slept, I consoled myself with believing that he died without much pain, and lived with as much pleasure as he could have enjoyed in a state of captivity.”

THE JAVELIN BAT.

THE animal in question we have denominate *Javelin Bat*, from a sort of comb, or membrane upon its nose, which perfectly resembles the head of a lance. Although this character alone is nearly sufficient to distinguish it from all other animals, we can add some others, as its having scarcely an ear, and its hair and size being nearly like the common bat, with this difference, that instead of having incisive teeth in the lower jaw, it has only one. This kind of Bat is very common in America, and is never found in Europe.

There is another Bat in Senegal, which has a membrane upon its nose, not in the form of a shoe, as in one species we have observed, or the head of a javelin, as in this, but in the shape of an oval leaf. These three Bats, being of different kinds, are not simple varieties, but distinct separate species.

Bats, which have, in other respects, great affinity with birds, by their power of flying, and by the strength of the pectoral muscles, seem to resemble them still more in these membranes, or combs, which they have on their face; for most birds also have combs, or membranes, about their beaks, which seem, in every respect, as superior as those of the Bat kind.

CHAP. XX.

Of the Serval...The Ocelot...The Margay...The Jackal and the Adil...The Isatis...The Glutton...The Stinking Polecats...The Pekan and the Vison...The Sable ...The Lemming...The Canadian Otter...The Seal ...The Common Seal...The Ursine Seal...The Bottle-nose Seal...The Sea Lion...The Walrus, or Morse ...The Manati...The Whale-tailed Morse...The Round-tailed Manati...The Sea Ape Manati.

THE SERVAL.

THIS animal has been kept alive several years in the royal menagerie of France, by the name of the *Tiger Cat*; and we should have still remained ignorant of its true name, if M. de Montmirail had not discovered it in the account of an Italian voyage, which he has translated:—"The *Maraputia*, which the Portuguese in India call *Serval*," says Vincent Maria, "is a wild and ferocious animal, much larger than the wild cat, and something less than the civet, which it differs from by its head being rounder and thicker in proportion to its body, and its face sinking in about the middle of it. It resembles the panther in the colour of the hair, which is brown upon the head, back, and sides, and white upon the belly; also in the spots, which are distinct, equally distributed, and less than those of the panther; its eyes are brilliant; its whiskers are composed of long and stiff bristles; its tail is short; its feet large, and armed with long and hooked claws. It lives among the mountains of India, and is very seldom seen on the ground; it remains almost continually upon high trees, where it catches birds, on which it feeds.

It leaps also as nimbly as a monkey, and goes from one tree to another with such great address and agility, that it passes over a great space in a short time, and, we may say, only appears and disappears. It is ferocious in its nature, but flies at the sight of man."

Neither captivity, nor good or bad treatment, will tame or soften the ferocity of this animal. It seems to be the same creature as the tiger cat of Senegal and the Cape of Good Hope, which, according to the testimony of travellers, resembles our cat in its shape and size. "This animal," they say, "is four times as large as a cat, of a voracious nature, and feeds like the monkey, the rat," &c.

THE OCELOT.



IN describing the Ocelot, serious mistakes have been committed by Buffon and other naturalists. It is to Mr. Bennett that we are indebted for the latest and

most accurate description of this animal. "Nearly equal in size to the lynx of Europe (says he), but shorter in its proportions and more graceful in its form, it holds, as it were, a middle station between the leopard and the domestic cat. Its body, when full grown, is nearly three feet in length, and its tail rather more than one; while its medium height may be reckoned at about eighteen inches. The ground colour of its fur is gray, mingled with a slight tinge of fawn, and on this it is elegantly marked with numerous longitudinal bands, the dorsal one being continuous and entirely black, and the lateral, to the number of six or seven on each side, consisting for the most part of a series of elongated spots with black margins, sometimes completely distinct, and sometimes running together. The centre of each of these spots offers a deeper tinge of fawn than the ground colour external to them; and this deeper tinge is also conspicuous on the upper part of the head and neck, and on the outside of the limbs, all of which parts are irregularly marked with full black lines and spots of various sizes. From the top of the head, between the ears, there pass backwards, towards the shoulders, two, or more frequently four, uninterrupted diverging bands, which are full black anteriorly, but generally bifurcate posteriorly, and enclose a narrow fawn coloured space within a black margin; between these there is a single longitudinal somewhat interrupted narrow black line, occupying the centre of the neck above. The ears are short and rounded, and externally margined with black, surrounding a large central whitish spot. The under parts of the body are whitish, spotted with black, and the tail, which is of the same ground colour with the body, is also covered with blackish spots. The tail of the

specimen in the Tower does not exceed six or seven inches, but, as it ends abruptly, it has, in all probability, been shortened by some accident."

The animal in the Tower was sent from Trinidad, under the name of the Peruvian Tiger. It is extensively spread over the American continent, being found in the widely separated regions of Mexico and Paraguay, where it abides in the depths of the forests during the day, and giving chase at night to birds and small quadrupeds. As it is an active climber, it follows the birds even to their nests. "It is easily tamed (says Mr. Bennet) but seldom loses all trace of its natural ferocity. D'Azara, however speaks of one which was so completely domiciliated as to be left at perfect liberty; it was strongly attached to its master, and never attempted to make its escape. The specimen in the Tower, which is a male, is perfectly good tempered, exceedingly fond of play, and has, in fact, much of the character and manners of the domestic cat. Its food consists principally of rabbits and of birds, the latter of which it plucks with the greatest dexterity, and always commences its meal with their heads, of which it appears to be particularly fond. It does not eat with the same ravenous avidity which characterizes nearly all the animals of its tribe."



THE MARGAY

Is much smaller than the ocelot. It resembles the wild cat in the size and shape of its body ; its head only is more square, its snout longer, its ears rounder, and its tail longer ; its hair also is shorter, and it has black streaks and spots on a brown ground. Its skin is fawn-coloured above, and whitish beneath, with longish spots of dark brown, disposed in fine lines, straight on the back, and oblique on the flanks. The shoulders are spotted with a deep reddish brown, and bordered with a black brown. The tail is irregularly annulated. It was sent us from Cayenne, by the name of the *tiger-cat* ; and, in fact, it partakes of the nature of the cat and the jaguar. According to Fernandez, when this animal has arrived at its full growth, it is not quite so large as the civet ; and, according to Marcgrave, whose comparison is juster, it is about the size of a wild cat, which it also resembles in its natural habits, living only upon fowls, and other small game ; but it is very difficult to be tamed, and never loses its natural ferocity ; it varies greatly in its colour, though commonly it is such as we have here described it. This animal is very common in Brazil and Guiana.

THE JACKAL AND THE ADIL.

WE are not certain that these two names denote two animals of different species. We only know that the Jackal is a larger animal, which is more ferocious and difficult to be tamed than the Adil. As both the Jackal and the Adil, however, are natives of the same countries ; as the species has not been altered by a long domesticity ; and as there is a considerable difference in the size, and even in the nature of these

animals; we shall look on them as two distinct species.

"In size (says Mr. Bennett) he is about equal to the common fox, but he differs from that equally troublesome animal in the form of the pupils of his eyes, which correspond with those of the dog and of the wolf; in the comparative shortness of his legs and muzzle; in his less tufted and bushy tail; and in the



peculiar marking of his coat. The colouring of his back and sides consists of a mixture of gray and black, which is abruptly and strikingly distinguished from the deep and uniform tawny of his shoulders, haunches, and legs: his head is nearly of the same mixed shade with the upper surface of his body, as is also the greater part of his tail, which latter, however, becomes black towards its extremity; his neck and throat are whitish, and the under surface of his body is distinguished by a paler hue." The yellow which is about him is the reason why many authors have called the Jackal the *golden wolf*.

As the species of the wolf approaches that of the

dog, so the Jackal finds a place between them both. The *Jackal*, or *Adil*, as Belon says, is a beast between the wolf and the dog. To the ferocity of the wolf, it joins, in fact, a little of the familiarity of the dog. Its voice is a kind of a howl, mixed with barking and groaning; it is more noisy than the dog, and more voracious than the wolf; it never stirs out alone, but always in packs, of twenty, thirty, or forty; they collect together every day, to go in search of their prey; they make themselves formidable to the most powerful animals, by their number; they attack every kind of beasts or birds, almost in the presence of the human species; they abruptly enter stables, sheepfolds, and other places without any sign of fear; and when they cannot meet with any other thing, they will devour boots, shoes, harnesses, &c. and what leather they have not time to consume, they take away with them. When they cannot meet with any live prey, they dig up the dead carcasses of men and animals. The natives are obliged to cover the graves of the dead with large thorns, and other things, to prevent them from scratching and digging up the dead bodies. The dead are buried very deep in the earth; for it is not a little trouble that discourages them. Numbers of them work together, and accompany their labour with a doleful cry; and, when they are once accustomed to feed on dead bodies, they run from country to country, follow armies, and keep close to the caravans. This animal may be styled the crow of quadrupeds; for they will eat the most putrid or infectious flesh: their appetite is so constant and so vehement, that the driest leather is savoury to them; and skin, flesh, fat, excrement, or the most putrefied animal, is alike to their taste.

THE ISATIS.

THIS animal, which is a species of fox (*canis corsac*), is very commonly seen in the northern countries, and but rarely found on this side sixty-nine degrees latitude; it is nearly two feet in length; it perfectly resembles the fox, in the form of its body, and the length of the tail; but its head is like that of a dog: its hair is softer than that of the common fox; its head is short in proportion to its body; it is broad towards the neck, and terminates in a sharp-pointed snout. Its ears are almost round. There are five toes and five claws to the fore feet, and only four toes and four claws to the hinder ones. The hair on every part of the body is about the length of two inches, smooth and soft as wool. The tail is black at the end, and so long that it touches the ground.

The voice of the Isatis partakes of the barking of the dog and the yelping of the fox. Those who deal in furs distinguish two animals of this kind, the one white, and the other ash-coloured: the last are the most valuable.

The Isatis lives upon rats, hares, and birds, which it catches with as much subtilty as the fox. It plunges in the water, and traverses the lakes, in search of water-fowls and their eggs. The only enemy it has in the desert and cold countries, which it inhabits, is the glutton.

THE GLUTTON.



EXCLUSIVE of the tail, which measures about a foot, the length of the Glutton is three feet. The top of the head, the whole of the back, the muzzle, and the feet, are of a blackish brown colour. The tail is of the colour of the body, and the sides are dusky. The body is thick, and its legs short. It is nearly of the size of a ram, but as thick again; its head is short, its eyes small, its teeth very strong; its fur is exceedingly beautiful, and much valued. It is common in Lapland, and all the neighbouring countries of the Northern Sea, as well in Europe and America as in Asia. It is called *Carcajou* in Canada, and the northernmost parts of America.

The legs of the Glutton are not formed for running; its pace is very slow; but its cunning supplies this deficiency; it waits the arrival of its prey in ambush; and, in order to seize it with greater security, it climbs up a tree, carrying with it a quantity of a kind of moss to which the deer are partial. This it throws down to the deer, and if one of them stops, the Glutton darts down, and fastens itself so strongly with its claws and teeth, that all the efforts of the animal cannot remove it. The poor animal in vain flies with its utmost speed; in vain it rubs itself against trees and other objects; all is useless: fastened on its back or loins, the Glutton still per-

sists in tormenting it, by digging into its flesh and sucking its blood, till the animal, fainting with loss of blood, falls ; then the Glutton devours it by piecemeal, with the utmost avidity and obstinate cruelty. It is inconceivable, what a length of time together the Glutton will eat, and what a quantity of flesh it will devour at one single meal.

From this quality, the Glutton has obtained the name of the *Quadruped Vulture*. It is more insatiable, and commits greater depredations, than the wolf ; it would destroy every animal, if it had sufficient agility ; but the only animal it is capable of taking on foot is the beaver, which it easily destroys : it even often attacks that animal in its hole, and devours both it and its young, if they do not get to the water in time ; for then the beaver escapes its enemy by swimming, and the Glutton stops its pursuit to feed upon the fish. When it is deprived of any living food, it goes in search of carcasses, scratches open graves, and devours the flesh of dead bodies to the very bone.

Although this animal is subtle, and uses every art to conquer other animals, it seems to have not the least instinct for its own preservation. It suffers the human species to approach it without the least appearance of fear. This indifference, which seems to show its imbecility, is occasioned, perhaps, by a different cause ; it is certain that the Glutton is not a stupid animal, since it readily finds means to satisfy its perpetual and almost immediate appetite ; it does not want for courage, since it attacks every animal indifferently that comes in its way, and does not fly at the sight of man, nor even show the least mark of spontaneous fear. When attacked, it resists stoutly, and is able to break a trap in pieces, or tear

the stock from a gun. If, therefore, it is deficient in a proper care for its own safety, it does not arise from an indifference for its preservation, but only from its habit of security, as it is a native of almost every desert country, where it seldom meets with any of the human species.

As the isatis is not so strong, but much swifter than the Glutton, it serves as a purveyor to the latter, which follows it in its pursuit of animals, and often deprives it of its prey before it has devoured it, or, at least, partakes of it; for, the moment the Glutton approaches, the isatis, to avoid destruction itself, leaves what remains, for the Glutton to feed on. Both these animals burrow in the ground; but in every other habit they are different. The isatis often goes in flocks, while the Glutton moves alone, or sometimes with its female: they are often found together in their burrows. The fiercest dogs are fearful of attacking the Glutton, which defends itself with its teeth and feet, and often mortally wounds them.

The flesh of the Glutton, like that of every other voracious animal, is very bad food. It is only hunted after for its skin, which makes an exceedingly good and beautiful fur, not inferior to the sable and black fox. It is also said that, when properly chosen and well dressed, it has a more excellent gloss than any other skin, and even has the beauty of a rich damask. The Kamtschadales esteem it so highly, that they say the heavenly beings wear garments of no other fur. The women ornament their hair with its white paws.

THE STINKING POLECATS

ARE found in every part of South America. They may be divided into four species; the *Squash*, the *Conepate*, the *Skink*, and the *Zorille*.

The first of these animals is about sixteen inches long; its legs are short, its snout pointed, its ears small, its hair of a deep brown, and its claws black and sharp. It chiefly dwells in the hollow and clefts of rocks, where it brings forth its young. It preys upon small animals, birds, &c.; and when it can steal into a farm yard, it kills the poultry, but eats only their brains. When it is pursued or offended, it calls up all its diabolical scents to its defence, and sends forth such a horrid stench, that it is dangerous for men or dogs to approach it. Its urine is apparently infected with this nauseous vapour, which, however, we must observe, does not seem habitual to it.

Among the four kinds of *Stinkards* we have above indicated, the two last belong to the hottest countries of South America, and may possibly be no more than two varieties, and not two different species. The two first are varieties of New Spain, Louisiana, Carolina, and other temperate climates, and seem to be two distinct and different species from the others; but particularly the *Squash*, which has a particular character, of having only four claws on the fore feet, whereas all the rest have five; but, in every other respect, these animals have nearly the same figure, the same instinct, the same offensive scent, and only differ, as I may say, by the colour and length of the hair. The *Squash*, as has been observed, is of a pretty uniform brown colour, and its tail is not

tufted like the rest. The Conepate has five white stripes on a black ground, running longitudinally from the head to the tail. The Skink is white on the back, and black on the side, but quite black on the head, excepting a white streak, which runs from the nape of the neck to the forehead. Its tail is tufted, and clothed with very long white hairs, mixed with some of a black colour.

The Zorille, which is also called Mauripita, is still smaller, and has a most beautiful tail, furnished with as great abundance of hair as the Skink, from which it differs by the disposition of the spots on its coat, the white streaks running longitudinally from the head to the middle of the back, on a black ground; besides which, there are other kinds of streaks, which pass transversely over the loins, the crupper, and the insertion of the tail, one half of which is black and the other white; whereas in the Skink they are all of the same colour.

Kalm, speaking of this animal, says, "One of them came near the farm where I lived. It was in winter time, and during the night, and the dogs that were upon the watch pursued it for some time, until it discharged its urine against them. Although I was in my bed a good way off, I thought I should have been suffocated, and the cows and oxen themselves, by their lowings, showed how much they were affected by the stench. About the end of the same year, another of those animals crept into our cellar, but did not exhale the smallest scent, because it was not disturbed. A foolish woman, however, who perceived it in the night by the shining of its eyes, killed it, and at that moment its stench began to spread. The whole cellar was filled with it to such a degree, that the woman kept her bed for several days after,

and all the meat, bread, and other provisions, that were kept there, were so infected, that they were obliged to be thrown out of doors."

All these animals are nearly of the same form and size as the European Polecat; they resemble it also by its natural habits; and the physical results of their generation are the same.

THE PEKAN AND THE VISON.

THE fur merchants of Canada have long been acquainted with the name of *Pekan*, without any knowledge of the animal to which it belongs. We are also ignorant of the origin of the *Vison* as well as of the *Pekan*, and it is only said they belong to two different animals of North America, and principally of Canada.

The *Vison* lives in burrows, by the water side. Its feet are demi-palmated; its fur is of a more or less deep brown, with a fawn-coloured tinge; its tail is of a blackish brown. On the point of the lower jaw is a white spot.

The *Pekan* lives in the same countries, and has the same habits, as the *Vison*. The head, neck, shoulders, and upper part of the back, are of a mixed gray and brown. The nose, the loins, the tail, and the limbs are of a blackish brown. There is very often a spot on the throat.

THE SABLE.

ALMOST every naturalist has spoken of this animal without knowing any thing more of it than its skin. Mr. Gmelin is the first who has given its figure and description: he saw two living ones at the governor

of Tobolski's. "The Sable (says he) resembles the martin in its shape and habit of body, and the weasel in the number of its teeth: it has large whiskers about the mouth, its feet are broad, and armed with five claws, like the rest of its kind. These characters were common to these two Sables; but one of them was a dark brown, excepting the ears and the throat, where the hair was rather yellow; the other, which was smaller, was more of a yellowish cast, its ears and throat being also much paler. These are the colours they both have in winter, and which they are seen to change in the spring; the former becoming of a yellow brown, the other of a pale yellow." He says, also, that at night they were extremely restless and active; but that, in the day, and particularly after eating, they would sleep so soundly for half an hour or an hour at a time, that not even pricking them would awaken them. When they saw a cat, they rose on their hind feet, preparatory to the combat.

These animals inhabit the banks of rivers in shady places, and in the thickest woods: they leap with great ease from tree to tree, and are said to be afraid of the sun, which tarnishes the lustre of their robes in a very short time. They are also improperly said, by some, to hide themselves, and remain torpid during the winter, when it is the chief time they are hunted, and in which only they are in season, as their skins are much finer and better at that time than in summer: they live on rats, fish, and wild fruit: they have the disagreeable odour of their kind, which is strongest during the time their heat is on them: they are mostly found in Siberia, and but very few in Russia; and there are still fewer in Lapland and other countries. The blackest skins

are the most esteemed. The difference of this skin from others consists in the quality of the fur, which has no grain, and rubbed any way is equally smooth and unresisting; whereas, the furs of other animals, rubbed against the grain, give a sensation of roughness from their resistance. The skin of the Sable is, accordingly, more valuable than that of any other animal of an equal size.

The hunting of the Sable falls to the lot of condemned criminals, who are sent from Russia into these wild and extensive forests, which, for a great part of the year, are covered with snow: these unfortunate wretches remain there many years, and are obliged to furnish a certain number of skins every year: they only kill this animal by a single ball, in order to damage it as little as possible; and sometimes, instead of firearms, they make use of the cross-bow and very small pointed arrows. As the success of this hunting trade supposes address and great assiduity, the officers are permitted to encourage the hunters, by allowing them to share among themselves the surplus of those skins which they procure; and this, in the process of a few years, amounts to a very considerable sum. As, however, Siberia has become more populous, the Sables have retired further to the north and east, among the deserts and mountains.

THE LEMMING RAT,

OR LAPLAND MARMOT,

Is of the shape of a mouse, but has a shorter tail: its body is about the length of five inches, covered with fine hair of various colours. Those of Norway are of the size of a water rat; but those of Lapland

are scarcely as large as mice. The former are variegated with black and tawny in the upper parts; the sides of the head and the under parts are white. The legs are grayish, and the under parts of the body of a dull white. In some there are many red hairs about the mouth resembling whiskers, six of which are longer and redder than the rest. The mouth is but small, and the upper lip is divided like the squirrel's. The remains of the food in the throat of this animal incline us to imagine it ruminates. The head is large, short, and thick; the neck short; and the body thick. The eyes are small and black; the ears round, and inclining towards the neck; the legs before are short, and those behind longer, which gives it a greater degree of swiftness; the feet are clothed with hair, and armed with five very sharp and crooked claws; the middle claw is very long, and the fifth is like a little finger, or the spur of a cock, sometimes placed very high up the leg. This animal, therefore, whose legs are very short, runs very swift. It generally inhabits the mountains of Norway and Lapland, but descends in such great numbers in some years, and in some seasons, that the inhabitants look on their arrival as a terrible scourge, from which there is no possibility of deliverance. They move, for the most part, in a square, marching forward by night, and lying still by day. Thus, like an animated torrent, they are often seen more than a mile broad covering the ground, and that so thick, that the hindmost touches its leader. It is in vain that the inhabitants resist, or attempt to stop their progress; they still keep moving forward; and though thousands are destroyed, myriads are seen to succeed and make their destruction impracticable: they generally move in lines, which

are about three feet from each other, and exactly parallel: their march is always directed from the north-west to the south-west, and regularly conducted from the beginning. Wherever their motions are turned, nothing can stop them; they go directly forward, impelled by some strange power; and from the time they at first set out, they never think of retreating. If a lake or a river happens to interrupt their progress, they all together take the water and swim over it; a fire, a deep well, or a torrent, does not turn them out of their straight-lined direction; they boldly plunge into the flames, or leap down the well, and are sometimes seen climbing up on the other side. If they are interrupted by a boat across the river while they are swimming, they never attempt to swim round it, but mount directly up its sides; and the boatmen, who know how vain resistance would be, calmly suffer the living torrent to pass over, which it does without farther damage. If they meet with a stack of hay or corn which interrupts their passage, instead of going over it, they gnaw their way through; if they are stopped by a house in their course, if they cannot get through it, they continue there till they die. It is happy, however, that they eat nothing that is prepared for human subsistence; they never enter a house to destroy the provisions, but are contented with eating every root and vegetable that they meet. If they happen to pass through a meadow, they destroy it in a very short time, and give it an appearance of being burnt up and strewed with ashes. If they are interrupted in their course, and a man should imprudently venture to attack one of them, the little animal is no way intimidated by the disparity of strength, but furiously flies up at its oppo-

ment, and barking somewhat like a puppy, wherever it fastens it does not easily quit its hold: if, at last, the leader is found out of its line, which it defends as long as it can, and be separated from the rest of its kind, it sets up a plaintive cry, different from that of anger, and, as some say, gives itself a voluntary death, by hanging itself on the fork of a tree.

An enemy so numerous and destructive would quickly render the countries where they appear utterly uninhabitable, did it not fortunately happen that the same rapacity that animates them to destroy the labours of mankind, at last impels them to destroy each other. After committing incredible devastation, they are at last seen to separate into two armies, opposed with deadly hatred along the coasts of the larger lakes and rivers. The Laplanders, who observe them thus drawn up to fight, instead of considering their mutual animosity as a happy riddance of a most dreadful pest, form ominous prognostics from the manner of their engagements: they consider their combats as a presage of war, and expect an invasion from the Russians or Swedes, as the side next those kingdoms happens to conquer. The two divisions, however, continue their engagements and animosity until one part overcomes the other: from that time they utterly disappear, nor is it well known what becomes of either the conquerors or the conquered. Some suppose, that they rush headlong into the sea; others, that they kill themselves, as some are found hanging on the forked branches of a tree; and others, that they are destroyed by the young spring herbage. But the most probable opinion is, that having devoured the vegetable productions of the country, and having nothing more to subsist on, they then

fall to devouring each other, and having habituated themselves to that kind of food, continue it. However this be, they are often found dead by thousands, and their carcasses have been known to infect the air for several miles round, so as to produce very malignant disorders: they seem also to infect the plants they have gnawed, for the cattle often die that afterwards feed in the places where they passed. The inhabitants have an opinion, as they do not know whence such numbers proceed, that they fall with the rain.

Five or six young ones are produced at each litter, and the female brings forth several times in the course of a year. They sometimes litter while emigrating, and they have been seen carrying some of their offspring in their mouths, and others on their backs.

As for the rest, the male is generally larger and more beautifully spotted than the female: they go in droves into the water; but no sooner does a storm of wind arise, than they are all drowned. The flesh of the Lemmings is horrid food, and their skin, although covered with a very beautiful fur, is of too little consistence to be serviceable.

THE CANADIAN OTTER,

WHICH is much larger than the common Otter, must be a native of the north of Europe, as well as of Canada. It appears to be larger and blacker than the common Otter; but is rather a variety than a distinct species.

THE SEAL.

THIS animal has its head round, like that of the human species; its snout is broad, like the otter's; the eyes large and elevated; little or no external signs of ears, only two auditory passages in the sides of the head; it has whiskers about its mouth, and its teeth somewhat resemble those of the wolf; the tongue is forked at the point; the body, hands, and feet, covered with a short and bristly hair; it has no legs, but two feet, or membranes, like hands, with five toes, terminated by as many claws: these membranes, which have the appearance of hands, are only larger and turned backwards, as if designed to unite with its very short tail, which they accompany on both sides. The body is thickest where the neck is joined to it, whence the animal tapers down to the tail like a fish. This amphibious creature, though of a very different nature from that of our domestic animals, yet seems susceptible of a kind of education: it is fed by putting it often in water: it is taught to salute persons with its head and its voice; it is accustomed to obey the call of its keeper, and gives many other signs of intelligence and docility.

The sensations of the Seal are as perfect, and its sagacity as ready, as those of any other quadruped: both the one and the other are strongly marked by its docility, its social qualities, its strong instinct for its female, its great attention towards its young, and by its voice, which is more expressive and more modulated than in other animals: its body is likewise firm and large: it is also strong, and armed with very sharp teeth and claws, and has many

particular and singular advantages over any other animals we can compare with it; it endures both heat and cold, and feeds indifferently on grass, flesh, or fish; it can equally live on ice, land, or in the water. This animal and the walrus are the only quadrupeds which deserve the name of *amphibious*, or which have the *foramen ovale* open, consequently they are the only animals of that class which can exist without respiration, and to which the watery element is as agreeable as that of the air.

But these advantages, which are very great, are counterbalanced by imperfections still greater: they may be said to be deprived of the use of their fore legs, or membranes; they are almost entirely shut up within its body, while nothing appears but the extremity of them, which are furnished with five toes, scarcely moveable, being united together by a very strong membrane, so that they might more properly be called fins than feet, as they are more adapted for the purpose of swimming than walking, the hind feet, indeed, being turned backwards, are entirely useless upon land; so that when the animal is obliged to move, it drags itself forward like a reptile, and with an effort more painful; for it cannot twist itself about like a serpent, but lies like a lump on the earth, and by grasping whatever it finds in its reach, drags itself up the steepest shores, rocks, and shoals of ice: by this method it moves with such a degree of swiftness, that a man cannot overtake it; it makes its way towards the sea, and often, though wounded, escapes the pursuit of the hunter.

Seals are social animals, and generally found in great numbers in the places they frequent: their natural climate is the northern, but they are also

met in the temperate and even hot countries; for they are seen on the shores of almost all the seas in the universe. The species alone seems to vary, and, according to the difference of climates, changes its colour, and even its shape.

The females of these animals bring forth in winter, and rear their young upon some sand-bank, rock, or small island, at some distance from the continent. When they suckle their young, they sit upon their hinder legs, and they continue with their dam for twelve or fifteen days; after which she brings them down to the water, accustoms them to swim, and get their food by their own industry. As each litter never exceeds above three or four, so the animal's cares are not much divided, and the education of her little ones is soon completed. The young particularly distinguish their mother's voice among the numerous bleating of the old ones, and are perfectly obedient to her call. We are unacquainted with the time of the female's gestation; but, if we judge from the time of their growth, the length of their lives, and the size of the animals, it will appear to be many months: the time also that intervenes, from their birth till they attain their full growth, being many years, the length of their lives must also be very long. I am of opinion that these animals live upwards of a hundred years; for we know that cetaceous animals in general live much longer than quadrupeds; and as the Seal fills up the chasm between the one and the other, it must participate of the nature of the first, and consequently live much longer than the latter.

The voice of the Seal may be compared to the barking of an angry dog. When young, they have a shrill note, somewhat like the mewing of a cat:

those that are taken early from their dams mew continually, and very often die sooner than take the food that is offered them. These animals in general are of a courageous nature. It is remarked, that instead of being terrified at thunder and lightning, they are rather delighted, generally come on shore in tempests and storms, and even quit their icy abodes to avoid the shock of the tempestuous waves: at such times, they sport in great numbers along the shore; the tremendous conflict seems to divert them, and the heavy rains that fall appear to enliven them: they have naturally a disagreeable scent, and when there are great numbers together, it is smelt at a great distance. It often happens, that when pursued, they drop their excrements, which are of a yellow colour, and of a very abominable scent. As they have a prodigious quantity of blood, and are also greatly overloaded with fat, they are consequently of a very dull and heavy nature; they usually sleep soundly, and are fond of taking their repose on flakes of ice, or on the sides of rocks, at which time the hunters approach very near without disturbing them, and this is the usual method of taking them: they are very seldom killed with fire-arms; for, as they do not immediately die, even if they are shot in the head, they plunge into the sea, and are entirely lost to the hunter; the general method therefore is, to surprise them when asleep, and knock them on the head. "They are not easily killed, and are a long time dying (says a modern traveller), for although they are mortally wounded, and their blood nearly exhausted, and nearly stripped of their skins, yet they still continue alive; indeed, it is a disagreeable sight to see these animals wounded and skinned, wallowing and roll-

ing about in their blood in the greatest agonies. These remarks were made on the animals we killed, which were about eight feet long, for, after they were skinned, and even deprived of a great part of their fat, yet they attempted to bite their butchers, notwithstanding they had given them many powerful blows over the head and nose. One of them even seized a lance which was presented to it, with as much eagerness as if it had not been wounded; after which we pierced it through the heart and liver, whence as much blood flowed as is contained in a young ox."

THE COMMON SEAL.



THESE animals differ considerable in size, being found from four to nine feet long; they also vary in their colours; some being black, others white, some spotted, and many yellow. Their chief food consists of fish, which they are remarkably expert in pursuing and catching. In those places where herrings are seen in shoals, the Seals destroy them by thousands; and when these retire, they are obliged to hunt after fish that are stronger, and more capable of evading pursuit. They are taken for the sake of their skins and the oil their fat yields. The Seal is capable of being tamed, and is said to be

fond of music. The Icelanders believe them to be the offspring of Pharaoh and his host, who were converted into Seals on their being overwhelmed in the Red Sea. Were the race of this creature to cease to exist, the Greenlander would be rendered almost unable to inhabit his rigid clime, as it is principally from them that he derives the necessities of life. There is scarcely a part of them which is not of the highest utility to him.

THE URSINE SEAL.

THE males of this species are, in general, about eight feet long, but the females are much smaller. Their bodies are very thick, and the colour of the hair is commonly black, but that of the old ones is tipped with gray. The females are of an ash-coloured hue. The nose projects like that of a pug dog, and the eyes are large and prominent. Their voice varies on different occasions; thus, when sporting on their native rocks, they low like a cow; when engaged in battle they growl hideously; after a defeat or receiving a wound, they mew like a cat; and the note of triumph after a victory somewhat resembles the chirping of a cricket. These animals are chiefly



found on the islands in the vicinity of Kamtschatka, from June to September; after which they remove, some to the Asiatic, and some to the American coast. On Behrings Island they are so numerous as almost to cover the whole shore; but it is a singular fact that they only frequent that part of it which lies towards Kamtschatka.

Ursine Seals live in families, each male being surrounded by from eight to fifty females, whom he watches with the most vigilant jealousy, and treats in the most tyrannical manner. They are of an irritable disposition, and have frequent battles. So tenacious are they of life that they will live a fortnight after receiving wounds which would be speedily mortal to other animals.

THE BOTTLE-NOSED SEAL.

THIS variety of the Seal is usually found in the seas around New Zealand, the island of Juan Fernandez, and the Falkland islands. The male of this species measures from fifteen to twenty feet in length, and differs from the female in having a large snout, which projects five or six inches beyond the extremity of the upper jaw, and which, when irritated, it inflates, so as to give to it the appearance of an arched or hooked nose. The quantity of blubber contained between the skin and the flesh is so great, it being at least a foot in depth in the largest, that the animal, when in motion, looks like an immense skin filled with oil. This quantity of fat probably contributes to render the Bottle-nosed Seal of so lethargic a disposition, that it is not easily to be compelled to move, and, consequently, is easily killed. It divides its time almost equally between the land and sea.

and lives in herds, each of which seems to be under the direction of a large male, which seamen term the Bashaw, from the circumstance of his driving away females from the other males, and appropriating them to himself. At a distance from each herd, some of the males are placed as sentinels, and by them the alarm is loudly given in case of danger.

THE SEA LION,

OR LEONINE SEAL.

To the species of seals, as above described, we may, with great propriety, add another animal, described in Anson's *Voyages* by the name of the *Sea Lion*. They are found in great numbers on the coasts of the South Sea. The Sea Lion resembles our sea calf, which is very common in the same latitude; but they are much larger than any of the former, being from eleven to eighteen feet long, and from eight to eleven in circumference. It is so fat, that when the skin is taken off, the blubber is about a foot thick all round the body. About ninety gallons of oil is drawn from one of these animals; they are at the same time very full of blood, and when deeply wounded in many parts of the body, the blood spouts out with amazing power: the throat of one of these animals being cut, it afforded two barrels of blood, besides what then remained in its body. Its skin is covered with a short hair of a brownish colour, but blackish on the tail and feet: their toes are united by a membrane which does not reach to their extremity; each of the toes is known by a claw. The Sea Lion differs from the seal, not only in its size and bulk, but also in some other characters; the male has a kind of thick comb or trunk

hanging from the end of the upper jaw, about five or six inches long. This character is not seen in the female. The strongest males collect together a flock of females, and hinder the others from approaching them. These animals are truly amphibious; they remain all the summer in the sea, and go on shore in winter, at which season the females bring forth their young, but never above one or two at a litter, which they suckle, like the seal.

The Sea Lions, while they are on shore, feed on the grass by the side of the sea: they are of a very heavy and drowsy nature, and delight to sleep in the mire: but they are very wary, and at those times commonly fix some as sentinels near the place where they sleep; and it is said, that these sentinels are very careful to awake them when any danger is near. Their voices are very shrill, and of various tones; sometimes grunting like hogs, and sometimes neighing like horses. The males often fight with each other, when they wound one another desperately with their teeth. The flesh of these animals is not disagreeable to eat, particularly the tongue, which is as good as that of the ox. They are very easily killed, as they cannot defend themselves, nor fly from their enemies: they are so exceedingly heavy, that they move with great difficulty, and turn themselves about with still greater. Those that hunt them have only to guard against their teeth, which are very strong, and which they make use of with powerful effect on those who approach within their reach.

By comparing other observations and accounts, the Sea Lion of South America appears to be nearly the same as that found on the northern coast of the same continent. The great seal of the Canadian

Sea, spoken of by Davis, by the name of the sea wolf, and which he distinguishes from the common sea calf, might possibly be the same as the Sea Lion we are speaking of. Their young, says this author, are larger and longer than our largest hog.

THE WALRUS, MORSE,
OR SEA COW.



THE name of Sea Cow, or Sea Horse, by which the Walrus is most generally known, has been very wrongly applied; since the animal which it denotes has not the least resemblance to the land animals of that name: the denomination of sea elephant, which others have given it, is much better imagined, as it is founded on a singular and very apparent character. The Walrus, like the elephant, has two large ivory tusks, weighing from ten to thirty pounds each, which shoot from the upper jaw; its head also is formed, or rather deformed, like that of the elephant, and would entirely resemble it in that part if it had a trunk; but the Walrus is deprived of that instrument, which serves the elephant in the place of an arm and hand, and has real arms to make

use of. These members, like those of the seal, are shut up within the skin, so that nothing appears outwardly but its hands and feet: its body is long and tapering, thickest towards the neck: the whole body is clothed with a short hair; the toes, and the hands, or feet, are covered with a membrane, and terminated by short and sharp-pointed claws. On each side of the mouth are large bristles in the form of whiskers: its tongue is hollowed, the concha of the ears are wanting, &c.; so that, excepting the two great tusks, and the cutting teeth, which it is deficient in above and below, the Walrus in every other particular perfectly resembles the seal: it is only much larger and stronger, being commonly from twelve to sixteen feet in length, and eight or nine in circumference, and sometimes reaching eighteen feet in length, with a proportionable girth; whereas the largest seals are no more than seven or eight feet. The Walruses also are generally seen to frequent the same places as the seals are known to reside in, and are almost always found together. They have the same habitudes in every respect, excepting that there are fewer varieties of the Morse than the seal: they likewise are more attached to one particular climate, and are rarely found except in the northern seas.

“There was formerly,” says Zordrager, “great plenty of Morses and seals in the bays of Horisont and Klock, but at present there are very few. Both these animals quit the water in the summer, and resort to the neighbouring plains, where there are flocks of them from eighty to two hundred, particularly Morses, which will remain there several days together, till hunger obliges them to return to the sea. This animal externally resembles the seal, but

it is stronger and much larger: like that, it has five toes to each paw, but its claws are shorter, and its head thicker and rounder; its skin is thick, wrinkled, and covered with very short hair of different colours; its upper jaw is armed with two teeth about half an ell or an ell in length; these tusks, which are hollow at the root, become larger as the animal grows older. Some of them are found to have but one, the other being torn out in fighting with each other, or perhaps fallen out through age. This ivory generally brings a greater price than that of the elephant, as it is of a more compact and harder substance. The mouth of this animal is like that of the ox, and furnished with hairs which are hollow, pointed, and about the thickness of a straw. Above the mouth are two nostrils, through which the animal spouts the water like a whale. There are a great number of *Morses* towards *Spitzbergen*, and the profit that is derived from their teeth and fat fully repays the trouble, for the oil is almost as much valued as that produced from the whale. When the hunter is near one of these animals in the water, or on the ice, he darts a very strong harpoon at it, which, though made expressly for the purpose, often slips over its hard and thick skin; but if it has penetrated into it, they haul the animal towards the boat, and kill it with a sharp and strong lance. The *Morse* is generally heavier than the ox, and as difficult to pursue as the whale, the skin of which is more easily pierced. For this reason, they always endeavour to wound it in the most tender part, and aim at its eyes: the animal, obliged by this motion to turn its head, exposes its breast to the hunter, who immediately strikes it very forcibly in that part, and draws the lance out again as quick

as possible, for fear it should seize the lance with its teeth, and wound those that attack it. Formerly, before these animals were so greatly persecuted, they advanced so far on shore, that when it was high water, they were at a great distance from the sea; and at low water, being at a still greater, the hunters easily approached them and killed great numbers. The hunters, in order to cut off their retreat to the sea, and after they had killed several, made a kind of barrier of their dead bodies, and in this manner often killed three or four hundred in a season. The prodigious quantity of bones spread over the shores, sufficiently prove how numerous these animals were in former times. When they are wounded, they become extremely furious, often biting the lances in pieces with their teeth, or tearing them out of the hands of their enemies: and when at last they are strongly engaged, they put their head betwixt their paws, or fins, and in this manner roll into the sea. When there is a great number together, they are so bold as to attack the boats that pursue them, bite them with their teeth, and exert all their strength to overturn them."

Captain Cook saw a herd of them floating on an ice island off the northern coast of the American continent. "They lie (says he) in herds of many hundreds, upon the ice, huddling over one another like swine; and roar or bray so loud, that in the night, or in foggy weather, they gave us notice of the vicinity of the ice before we could see it. We never found the whole herd asleep, some being always on the watch. These, at the approach of the boat, would wake those next to them; and the alarm being thus gradually communicated, the whole herd

would be awaked. But they were seldom in a hurry to get away, till after they had been once fired at. They then would tumble over one another into the sea, in the utmost confusion. And if we did not, on the first discharge, kill those we fired at, we generally lost them, though mortally wounded. Vast numbers of these animals would follow and come close up to the boats ; but the flash of a musket in the pan, or even the pointing of a musket at them, would send them down in an instant. The female Walrus will defend her offspring to the very last, and at the expense of her own life, whether in the water or upon the ice. Nor will the young one quit the dam, though she be dead ; so that, if one be killed, the other is a certain prey."

We find the Walrus can live, at least for some time, in a temperate climate. We do not know how long it goes with young, but if we judge by the time of its growth and size, we must suppose it to be upwards of nine months. It cannot continue in the water for a long time together, and is obliged to go on shore to suckle its young, and for other occasions. When they meet with a steep shore, or pieces of ice to climb up, they make use of their tusks to hold by, and their feet to drag along the heavy mass of their body. They are said to feed upon the shell-fish which are at the bottom of the sea, and to grub them up with their strong tusks. Others say, that they live on the broad leaves of a certain vegetable which grows in the sea, and that they eat neither flesh nor fish. But I imagine all these opinions have but a weak foundation ; and there is reason to think, that the Walrus, like the seal, lives on prey, especially herrings and other fish ; for it

does not eat at all when upon land, and it is chiefly hunger which obliges it to return to the sea.

The fat of the Walrus furnishes from one to two barrels of oil; and the skin is capable of being manufactured into a strong and elastic leather.

THE MANATI.

THIS animal may be indiscriminately called the last of beasts or first of fishes. It cannot be called a quadruped; nor can it entirely be termed a fish: it partakes of the nature of the fish by its two feet or hands; but the hind legs, which are almost wholly concealed in the bodies of the seal and morse, are entirely wanting in the Manati: instead of two short feet and a small narrow tail, which is placed in a horizontal direction in the morse, the Manati has only a thick tail, spread out broad like a fan. Oviedo seems to be the first author who has given any sort of history or description of the Manati; he says, "it is a very clumsy and mishapen animal, the head of which is thicker than that of an ox, the eyes small, and the two feet or hands are placed near the head, for the purpose of swimming. It has no scales, but is covered with a skin, or rather a thick hide, with a few hairs or bristles: it is a peaceable animal, and feeds upon the herbage by the river sides, without entirely leaving the water, swimming on the surface of it to seek its food. The hunters practise the following method to take the Manati; they row themselves in a boat or raft as near the animal as possible, and dart a very strong lance into it, to the end of which a very long cord is fastened; the Manati feeling itself wounded, instantly swims away,

or plunges to the bottom: but the cord which holds the lance has a cork or piece of wood fastened to the end of it, to serve as a buoy; when the animal begins to grow faint and weak through the loss of blood, he swims to shore; the cord is then wound up, and the animal drawn within arm's length of the boat, where they dispatch it in the water by strokes of the oar or lance. It is so very heavy, as to be a sufficient load for two oxen to draw; its flesh is excellent eating, which is eaten rather as beef than as fish. Some of these animals measure more than fifteen feet in length by six feet in breadth: the body becomes narrower towards the tail, and then spreads gradually broader towards the end. As the Spaniards, adds Oviedo, give the appellation of hands to the feet of quadrupeds, and as this animal has only fore feet, they have given it the name of *Manati*, i. e. an animal with hands. The female has breasts placed forward like those of a woman, and she generally brings forth two young ones at a time, which she suckles. The flesh and fat of this animal (says M. de Condamine) have a great resemblance to veal. It is not, properly speaking, amphibious, since it never entirely leaves the water, having only two flat fins, close to the head, about sixteen inches long, and which serves the animal instead of arms and hands. It only raises its head out of the water to feed on the herbage by the sea-side. The eyes of this animal have no proportion to the size of its body; the orifice of its ears is still less, and only seems like a hole made by a pin. The *Manati* is not particular to the Amazonian river; for it is not less common in the Oroonoko: it is found also, though less frequently, in the Oyapoc, and many other rivers in the environs of Cayenne,

and the coast of Guiana, and probably in other parts."

The Manati species, however, is not confined to the seas and rivers of the New World, but is found also in those of Africa.

As the description given by Buffon of this animal is too vague to be satisfactory, it may be proper to enlarge somewhat on the different species.

THE WHALE-TAILED MORSE.

THIS variety of the Morse tribe, which is also called the Manati, chiefly inhabits that part of the North Pacific which lies between Kamtschatka and America. It lives in families, which unite and form immense droves. All the individuals are exceedingly attached to each other, particularly the males to their females; nothing can terrify or compel the latter to abandon the former. The Manati is sometimes twenty-eight feet long, and weighs as much as eight thousand pounds. It has a small head, double lips, and the mouth is filled with white tubulous bristles, near the junction of the jaws, which prevent the food from escaping out of the mouth with the water. The blubber and the skin are the parts which render this creature an object of pursuit to mankind.

THE ROUND-TAILED MANATI.

THIS animal frequents most of the great African rivers, from Senegal to the Cape of Good Hope, and also many of the rivers on the eastern shore of South America. It is often seen in the Amazons nearly a thousand leagues from its mouth. It prefers shallow

waters near low land, and is a frolicsome creature, frequently leaping into the air to great heights. The natives of America are said frequently to tame it, and we are told that it delights in music. The female, when struck by the harpoon, seems insensible to her own sufferings, and only anxious to protect her young one, by taking it under her fins or feet. The Round-tailed Manati is about six feet in length, and three or four in circumference. Its flesh is a white, well tasted, and salubrious food. When the thicker parts of the skin are cut into slices and dried, they become exceedingly tough, and form good whips. Of the thinner parts, which have more pliability, the Indians make thongs to fasten together the sides of their canoes.

THE SEA-APE MANATI.

THIS animal was seen, by Mr. Steller, off the coast of America, and was called by him the Sea-Ape. Pennant places it among the Manati tribe; but, as it has a head resembling in some measure that of a dog, with sharp upright ears, Mr. Bingley is disposed to class it with the seals. The name of Sea-Ape was given to it in consequence of the frolicsome tricks which it played. It swam round and admired the ship, stood erect for a considerable time with one-third of its body out of the water, darted backward and forward repeatedly, under the ship, and brought up in its mouth a sea plant, like the bottle gourd, which it tossed up, caught, and played innumerable antics with.

CHAP. XXI.

Of Monkeys...The Oran-otang...The Pigmy...The Gibbon, or Long-armed Ape...The Magot...The Baboon...The Maimon...The Mandrill...The Pig-tailed Baboon...The Pig-faced Baboon...The Bonnetted Monkey...The Dog-faced Baboon...The Ursine Baboon...The Wanderoo and the Loando...The Macaque and Egret...The Patas...The Malbrouck...The Mangabey...The Mona...The Callitrix...The Mustache...The Talapoin...The Douc...American Monkeys...The Warine and Alouato...The Coaita...The Capuchin Monkey...The Sai, or Weeper...The Siamiri, or Orange Monkey...The Saki...The Tamarin...The Wistiti...The Marikina...The Pinch...The Mico.

MONKEYS.

THE Monkey tribe is very numerous, and is usually classed by naturalists in three divisions. Those which have no tails are termed *Apes*, and those which have short tails are denominated *Baboons*; but by far the most numerous division consists of those which have long tails, and which are known by the general name of *Monkeys*.

THE ORAN-OTANG, OR THE PONGO AND THE JOCKO.

ORAN-OTANG is the name this animal bears in the East Indies; *Pongo*, its denomination at Loando, a province of Congo; and *Kukurlacks* in some parts of the East Indies. We shall present the Oran-otang and the Jocko together, because they are,

possibly, but one and the same species. We have seen the small Oran-otang, or the Jocko, alive, and



we have preserved its skin, but we can only speak of the Pongo, or great Oran-otang, from the accounts travellers have given us of it. Battel assures us, "that, excepting his size, the Pongo is exactly like that of a man in all his proportions: he is as tall (he says) as a giant: his face is like that of a man, the eyes deep sunk in the head, the hair on each side extremely long, the visage naked and without hair, as are also the ears and the hands; the body is lightly covered and scarcely differing from that of a man, except that there are no calves to the legs. Still, however, the animal is seen to walk on his hinder legs: he sleeps under trees, and builds himself a hut, which serves to protect him against the sun, and the rains of the tropical climates, of which he is a native; he lives only upon fruits, and is not carnivorous: he cannot speak, although furnished with greater instinct than any other animal of the brute creation. When the Negroes make a fire in the woods, this animal comes near and warms him-

self by the blaze: he has not, however, skill enough to keep the flame alive by feeding it with fuel. They go together in companies, and if they happen to meet with one of the human species, remote from succour, they show him no mercy. They even attack the elephant, which they beat with their clubs, and oblige to leave that part of the forest which they claim as their own. It is impossible to take any of these creatures alive, they are so strong. None of this kind, therefore, are taken, except when very young, and then but rarely, when the female happens to leave them behind; for, in general, they cling to the breast, and adhere both with legs and arms. There are two kinds of this animal, both very much resembling the human race, the Pongo, which is taller and thicker than a man; and the Jocko, whose size is much smaller," &c. "The Apes of Guinea (says Bosman), which are called *Smitten* by the Flemings, are of a brown colour, and grow to a very large size. I have seen some above five feet tall: these Apes are of a very disagreeable appearance, as well as those of another kind, which resemble them in every particular, excepting in size, which is a fourth part less than that of the former: they are very easily taught to do almost whatever their masters please." Schouten says, "That the animals which the Indians call Oran-otangs, are almost all of the same height and shape as mankind, but that their back and loins are covered with hair, of which, however, there is a deficiency in the fore part of the body; that the females have two breasts; that the face is rough, the nose flat, and the ears like those of a man; that they are robust, active, bold, and defend themselves even against armed men; that they are passionately fond of women, and

that there is no safety for them in passing through the woods they inhabit, as these animals immediately attack and injure them." To these testimonies we may add that of M. de la Bresse, mentioned in his Voyage to Angola. This traveller assures us, "that the Oran-otangs, which he calls *Quimpeazes*, often attempt to surprise the female negroes, which they keep with them for the pleasure of their company, feeding them very plentifully all the time. I knew (says he) a woman of Loando that had lived among these animals for three years. They grow from six to seven feet high, and are of unequalled strength. They build sheds, and make use of clubs for their defence: their faces are broad, their noses flat, their ears without a tip, their skins are fairer than that of a Mulatto, but they are covered on many parts of their body with long and tawny coloured hair: their belly is extremely large, their heels flat, and yet rising behind about half an inch: they sometimes walk upright, and sometimes upon all fours when they are fantastically disposed. We purchased two of these animals, one about fourteen months old, which was a male, and a female about twelve months."

The Oran-otang which I saw, walked always upright, even when it carried heavy burthens. Its air was melancholy, its deportment grave, its nature more gentle and very different from that of other apes. Unlike the baboon, or the monkey, whose motions are violent, and appetites capricious, who are fond of mischief, and only obedient through fear, a look was sufficient to keep it in awe. I have seen it give its hand to show the company to the door, that came to see it, and it would walk about gravely with them, as if one of the society. I have

seen it sit at table, unfold its napkin, wipe its lips, make use of the spoon and the fork to carry the victuals to its mouth, pour out its drink into a glass, touch glasses when invited, take a cup and saucer and lay them on the table, put in sugar, pour out its tea, leave it to cool before drinking, and all this without any other instigation than the signs or the command of its master, and often of its own accord. It was gentle and inoffensive: it even approached strangers with respect, and came rather to receive caresses than to offer injuries: it eat almost of every thing that was offered to it, but it preferred dry and ripe fruits to all other aliments. It would drink wine, but in small quantities, and willingly left it for milk, or any other sweet liquor. Mr. L. Brosse, who bought two young ones that were but a year old, from a negro, relates that, "even at that age, they sat at table, eat of every thing without distinction, made use of their knife, spoon, and fork, both to eat their meat and help themselves; they drank wine and other liquors. We carried them on ship-board, and when they were at table, they made signs to the cabin-boys expressive of their wants; and whenever they neglected attending upon them as they desired, they instantly flew into a passion, seized them by the arm, bit them, and kept them down. The male was seasick, and required attendance like a human creature: he was even twice bled in the right arm; and every time afterwards when he found himself indisposed, he showed his arm, as desirous of being relieved by bleeding."

Henry Grose relates, "that these animals are met with to the north of Coromandel; that Mr. Horne, governor of Bombay, had two of them sent him, a male and a female; they were scarcely two feet high, but

their form was entirely like the human: they walked erect upon their two feet, and were of a pale colour, without any hairs on any other part than where mankind generally have them: their actions perfectly resembled the human, and their melancholy plainly evinced how strongly they felt the weight of their captivity: they made their bed very carefully in the cage in which they were sent on board the ship. When any person looked at them, they hid those parts with their hands, which modesty forbids the sight of. The female (adds he) died on board, and the male showed all real signs of grief, and took the death of his companion so greatly to heart, that he refused his food, and did not survive her more than two days."

Francis Pyrard relates, "that in the province of Sierra Leona, in Africa, there are a kind of apes called *Barris*, which are strong and muscular, and so very industrious, that, if properly fed and instructed when young, they serve as very useful domestics: they usually walk upright, will pound at the mortar, fetch water from the river in a little pitcher, which they carry on their heads; but, if care be not taken to receive the pitcher at their return, they let it fall to the ground, and then, seeing it broken, they begin to lament and cry for the loss."

The Jocko is known by the name of the Chimpanzee. It is the *Simia Troglodytes* of Linnæus. From the Oran it differs only in colour and stature; the former being dark brown or blackish, and the latter not exceeding two feet and a half or three feet. It is a native of Angola, Sierra Leone, and some parts of Asia.

Mr. M'Leod gives the following description of an

Oran-otang which was brought to England, from Borneo, in 1816, on board the *Alceste*, when the embassy was returning from its fruitless mission to China:—"The Oran-otang, also a native of Borneo (says he), is an animal remarkable not only from being extremely rare, but as possessing, in many respects, a strong resemblance to man. What is technically denominated the cranium is perfectly human in its appearance; the shape of the upper part of the head, the forehead, the eyes (which are dark and full), the eyelashes, and, indeed, every thing relating to the eyes and ears, differing in no respect from man. The hair of his head, however, is merely the same which covers his body generally. The nose is very flat, the distance between it and the mouth considerable; the chin, and, in fact, the whole of the lower jaw, is very large, and his teeth, twenty-six in number, are strong. The lower part of his face is what may be termed an ugly or caricature likeness of the human countenance. The position of the scapulæ, or shoulderblades, the general form of the shoulders and breasts, as well as the figure of the arms, the elbow joint especially, and the hands, strongly continue the resemblance. The metacarpal, or that part of the hand immediately above the fingers, is somewhat elongated; and, by the thumb being thrown a little higher up, nature seems to have adapted the hand to his mode of life, and given him the power of grasping more effectually the branches of trees.

"He is corpulent about the abdomen, or, in common phrase, rather pot-bellied, looking like one of those figures of Bacchus often seen riding on casks: but whether this is his natural appearance when wild, or acquired since his introduction into

new society, and by indulging in a high style of living, it is difficult to determine.

“ His thighs and legs are short and bandy, the ankle and heel like the human ; but the fore part of the foot is composed of toes, as long and as pliable as his fingers, with a thumb a little situated before the inner ankle ; this conformation enabling him to hold equally fast with his feet as with his hands. When he stands erect, he is about three feet high, and he can walk when led like a child, but his natural locomotion, when on a plain surface, is supporting himself along, at every step, by placing the knuckles of his hands upon the ground. All the fingers, both of the hands and feet, have nails exactly like the human race, except the thumb of the foot, which is without any.

“ His natural food would appear to be all kinds of fruits and nuts, but he eats biscuit, or any other sort of bread, and sometimes animal food. He will drink grog, or even spirits, if given to him ; and has been known repeatedly to help himself in this way : he was also taught to sip his tea or coffee, and, since his arrival in England, has discovered a taste for a pot of porter. His usual conduct is not mischievous and chattering, like that of monkeys in general : but he has rather a grave and sedate character, and is much inclined to be social, and on good terms with every body. He made no difficulty, however, when cold, or inclined to sleep, in supplying himself with any jacket he found hanging about, or in stealing a pillow from a hammock in order to be more soft and comfortable.

“ Sometimes, when teased by showing him something to eat, he would display in a very strong manner the human passions, following the person

whining and crying, throwing himself off on his back, and rolling about apparently in a great rage, attempting to bite those near him, and frequently lowering himself by a rope over the ship's side, as if pretending to drown himself; but, when he came near the water's edge, he always reconsidered the matter, and came on board again. He would often rifle and examine the pockets of his friends in quest of nuts and biscuits, which they sometimes carried for him. He had a great antipathy to the smaller tribe of monkeys, and would throw them overboard if he could; but in his general habits and disposition there is much docility and good nature, and when not annoyed he is extremely inoffensive. He approaches, upon the whole, nearer to the human kind than any other animal."

An enormous Oran-otang, of the height of seven feet, and of a proportionate bulk, was, after many attempts, killed under a tree, from which it had fallen, in consequence of several bullet wounds, at Ramboon, on the western coast of Sumatra; having, as is supposed, wandered from the large and almost impenetrable forest, situated about two days' journey inland. The skin of this extraordinary creature is preserved in the museum of the Asiatic Society of Calcutta; it is of a dark leaden colour, covered, unequally, with brownish red, shaggy and glossy hair, which is long on the flanks and shoulders. The head was well proportioned to the body, the nose prominent, the eyes large, and the mouth rather larger in proportion than that of man; the chin was fringed with a curling beard, reaching from ear to ear, and the visage by no means disgusting. His chest was wide and expanding, and waist rather slender; his legs rather short, as compared with his

arms ; the feet and hands had very nearly the human form, except that the thumbs were smaller, and situated higher towards the wrists, than in man. His walk was erect, but waddling, and not quick, unless when his hands were used to assist, or a branch of a tree, to push himself along, his chief agility being shown in climbing trees, and springing from branch to branch, when pursued. The perfect state of his teeth showed that he was young, and in full vigour. He was without any vestiges of a tail.

THE PITHECOS, OR PIGMY.

By the testimonies of the ancients, the Pithecos seems to be the most gentle and docile of all the Monkey kind that was known to them : it was common in Asia, as well as in Libya, and in the other provinces of Africa, frequented by the Greek and Roman travellers. And this has made me presume, that we must refer the animals mentioned by Leo the African, and Marmol, to this kind. “ These animals (says Marmol) have feet and hands, and, if I may be allowed the expression, a human face, with an appearance of much vivacity and malice : they live upon corn, herbage, and all sorts of fruits ; to obtain which they sally forth in large bodies, and plunder the gardens or villages. Before they venture out on this expedition, one of the company ascends an eminence, and surveys the country round. If there is no appearance of any person near, he makes signs to his companions to enter the vineyard or orchards, and begin their plunder : but as soon as the sentinel perceives any one coming, he instantly sets up a loud cry, and the whole company scamper off with the utmost precipitation, and,

jumping from tree to tree, retreat to the mountains. It is a great curiosity to see those animals retreat; for the females carry four or five young ones upon their backs, and with this heavy load leap with great agility from branch to branch, though great numbers of them are taken, notwithstanding all their cunning. When they are angry, they bite; but while they are coaxed, they are very tame. Those that are tamed perform things almost incredible, and imitate mankind in almost every action they see them do." The *Pithecos* has no tail; its canine teeth are not proportionably longer than those of mankind; its face is flat, as are likewise its nails, which are rounded at the top, like those of a man; it walks erect, is about a cubit high, and of a gentle and tractable disposition. It is however, a dirty species, and leaves an unpleasant smell wherever it goes. Besides which, it has a mischievous propensity to break and destroy whatever comes in its way.

The Pigmy Apes are fattened for food by the inhabitants of the country where they are found. The mode of catching them is curious. The Apes sleep in caverns in the woods. Near these haunts the natives place vessels containing strong liquors. The animals assemble to enjoy the unexpected repast; they drain the vessels, and the consequence is, that they become intoxicated, fall asleep, and are then easily taken.

THE GIBBON, OR LONG-ARMED APE,

ALWAYS keeps its erect posture, even when it walks upon all fours, its arms being as long as its body and legs put together. We have seen one of these

animals alive; it was but young, and not then more than three feet high; though we must presume that it had not attained its full size, but that when it is adult, and in its free state, it is at least four feet. It had no appearance of any tail; it had a circle of gray bushy hair all round the face, which gave it a



very remarkable appearance: its eyes were large and sunk in its head, its face resembling that of a man, tanned, and its ears well proportioned. This Ape appeared to us to be of a gentle and tractable disposition; its motions were neither rash nor precipitate. It was fed on bread, fruit, almonds, &c. and calmly received the food that was presented to it; it was very averse to cold and wet weather, and did not live long after being brought from its native country. It is a native of the East Indies, and particularly found along the coasts of Coromandel, Malacca, and the Molucca islands.

THE MAGOT.

THIS animal is generally known by the name of the Barbary Ape. Of all the Apes which have no tail, this animal can best endure the temperature of our

climate. We have kept one for many years. In the summer it remained in the open air with pleasure; and in the winter, might be kept in a room without any fire. It was filthy, and of a sullen disposition: it equally made use of a grimace to show its anger, or express its sense of hunger: its motions were violent, its manners awkward, and its



physiognomy rather ugly than ridiculous. Whenever it was offended, it grinned and showed its teeth. It put whatever was given to it into the pouches on each side of its jaws, and commonly eat every thing that was offered to it, except raw flesh, cheese, and other things of a fermentative nature. When it slept, it was fond of roosting on a wooden or iron bar. It was always kept chained, for notwithstanding its long subjection, it was neither civilized, nor fond of its keeper: apparently, it had been but badly educated, for I have seen others of the same kind who were more sagacious, obedient, gayer, and so tractable as to be taught to dance, and suffer themselves quietly to be clothed and dressed.

This Ape is about two feet and a half, or three feet high, in its erect posture; but the female is not so large as the male. It rather chooses to walk on

all fours, than erect. When it sleeps, it is almost always sitting. There are two very prominent callosities on its posteriors. It differs also from the *Pithecos*; first, in the form of its snout, which is thicker and longer, like that of a dog; whereas the *pithecos* has a flat visage, like the human. Secondly, in having long canine teeth; instead of which the *pithecos* has them no longer in proportion than those of a man. Thirdly, in its nails, which are neither so flat nor so round; and, in short, it is larger, and of a more sullen and untractable disposition than the other. It abounds in Barbary, and in the forests of India, Arabia, and Africa. In Barbary the trees are sometimes nearly covered with them.

It is probably this kind of Monkey which Robert Lade speaks of in the following terms: "We travelled over a great mountain at the Cape of Good Hope, where we diverted ourselves with hunting the large Apes, which are there in great plenty. I am not able to represent all the tractableness of these animals which pursued us, nor the swiftness and impudence with which they returned to us after we had driven them away. Sometimes they suffered us to approach so near them, that, stopping almost close to one of these animals to take my observations, I thought myself certain of securing him, when, taking a sudden leap, he sprang above ten paces from me, and climbed up a tree with the greatest agility. They remained afterwards very quiet, looking on us as though they were pleased with our astonishment. There were some so exceedingly large, that if they had been of a ferocious nature, our number would not have been sufficient to secure us from their attacks. As it would have been useless to kill these

animals, we made no use of our guns; but the captain, thinking to wound one of them, which was seated on a tree, after a long pursuit, had no sooner presented his piece, but the animal, probably from the remembrance of the execution of some of his companions in the same manner, was so greatly terrified at it, that it fell almost motionless at our feet, and being stunned in the fall, we had not the least trouble to secure it: however, when it revived, we had occasion for all our strength and address to keep it, defending itself by biting those who were near it, which obliged us to bind our handkerchiefs over its head."

Tavernier tells us that some of the inhabitants of India adopt a ludicrous mode of avenging themselves on these Monkeys, who not unfrequently attack the women who are going to market, and rob them of their provisions. In an open space, near the retreat of the Apes, they place five or six baskets of rice, forty or fifty yards asunder, and near the baskets, a number of stout cudgels, each two feet in length. They then hide themselves, to watch for the result. Thinking that no one sees them, the Apes hasten towards the baskets. For a while they grin angrily at each other, then approach, then retire, and seem to dread coming to action for the prey. More daring than the males, the females at length advance to the baskets, and as they thrust in their heads to eat, the males on the one side rush forward to prevent them. This brings on a general engagement, and the cudgels are lustily plied till the weakest party is compelled to seek for shelter in the woods. The victors then quietly fall to upon their hard-earned meal.

THE BABOON,



PROPERLY so called, has a pouch on each side of its cheeks, capable of being greatly distended; it has callosities on its posteriors, which are naked, and of a red colour, and are often of a large size and disgustingly conspicuous: its tail is crooked and thick, generally as long as, and sometimes longer than the body, but in several of the species it is extremely short. The canine teeth are much thicker and longer than those of men. Its snout is very thick and very long, terminating in a flattened extremity like that of the dog; its ears are naked; its body and limbs are strong, thick, and short; its hair is long and thick, of a reddish brown colour, and pretty uniform over the whole body. It walks oftener on all fours than upright, and is from three to four feet high; but there seems to be different sizes of these animals. The female brings forth usually but one at a time, which she carries in her arms, and in a peculiar

manner, clinging to her breast: in other respects, these Baboons, although mischievous and ferocious, are not carnivorous; they principally feed upon fruits, roots, and corn; they generally keep together in companies, and sally forth to commit their depredations on the neighbouring vineyards or orchards. "As they are extremely fond of grapes, apples, and ripe fruit, they assemble together in great numbers, and proceed on their enterprise with previous deliberation. The dogs who are set to watch do not easily conquer these animals, as they are extremely active, and make dexterous use of their teeth and claws. On these occasions, a part of them enter the enclosure, while one of the company stands sentinel; the rest stand without the fence, a small distance from each other, and form a line, reaching all the way from the enclosure to the rendezvous without, which is generally in some craggy mountain. Every thing being thus disposed, the plunderers within the orchard throw the fruit to them without as fast as they can gather it: or, if the wall or hedge be high, to those that sit at the top, and these hand the plunder to those next their side."



THE MAIMON,

WHICH is a native of the banks of the Ganges, has pouches on each side of its cheeks, and callosities on its posteriors; its tail is naked, curled up, and about the length of five or six inches; the canine teeth are not much longer in proportion than those of men; the snout is very broad; the orbits of the eyes very acute above; the face, ears, hands, and feet are naked, and of a flesh colour; the hair on the body is of a beautiful greenish gray, each hair being gray and black tipped with yellow; the extremities are gray; the region of the reins is a golden yellow; and the thighs are of a lively red. It sometimes walks erect, and at other times upon all fours: it is about two feet or two feet and a half tall when erect. It is a spiteful animal.

THE MANDRILL.



THIS Baboon, which also bears the name of the Ribbed-nosed Baboon, is an ugly, disgusting animal. It is found on the Gold Coast, and in other southern provinces of Africa, where the Negroes call it *Boggo*, and the Europeans *Mandrill*. This animal is the largest of the Baboon kind. Smith relates, that a

female Mandrill was given to him, which was not above six months old, and had then attained the size of an adult Baboon: he likewise acquaints us, that these animals walk always erect; that they sigh and cry, like the human species; that they have a violent passion for the female sex; that they never fail to overcome them if they find them within their reach.

This animal is equally remarkable for its variety of colour, its singularity of appearance, its immense strength, and its unconquerable savageness. "Under its projecting forehead," says Mr. Bingley, "are two small and vivid eyes, situated so near to each other that their position alone gives to the physiognomy an air of ferocity. An enormous muzzle, indicative of the most brutal passions, terminates in a broad and rounded extremity of a fiery red colour, from which continually oozes a mucous humour. The cheeks, greatly swollen and deeply furrowed, are naked, and of a deep blue colour. A narrow blood-coloured ridge extends down the middle of the face, and terminates in the nose." Round the neck the hair is very long. On the sides of the head it joins that at the top, and the whole terminates in a somewhat pointed form. Each hair of the body is annulated with black and yellow; so that the whole fur has a greenish brown hue.

When standing upright, the Mandrill is in height from three feet and a half to five feet. It is to be found on the Gold Coast, in several other parts of Africa, and also in the East Indies and the Indian Archipelago. Its voice bears some resemblance to the roaring of a lion. No art or kindness can in the least subdue its brutal propensities; and its great strength renders it an object of perpetual dread to

its keepers. Yet it is not, strictly speaking, a carnivorous animal; for, though it will eat meat that has been cooked, its usual food is fruits and nuts.

THE PIG-TAILED BABOON,

So termed from its short, naked, piglike tail, is the least of all the Baboon kind; it has a large thick muzzle, naked face and ears, and is of a flesh colour; the hair on the head and back is of a deep olive: it has hazel eyes, and callosities on the buttocks, which are naked, and of a red colour. It is a native of Sumatra and Japan.

THE PIG-FACED BABOON.



THIS animal, which is also called the Chacena, is a native of Africa, and was formerly exceedingly troublesome to the settlers in the neighbourhood of the Cape of Good Hope. Its general colour is a

dusky hue, bordering upon black. The body is from two to three feet in length, and the tail is so short that, when the animal stands on all fours, it does not reach the ground. The forehead of this species is remarkably depressed; the nose is much prolonged. The voice of the Pig-faced Baboon has a near resemblance to the bark of a dog.

THE BONNETTED MONKEY.

THE animal which is represented on the same wood cut with the Pig-faced Baboon is the Bonnetted Monkey, called the Chinese Bonnet by Buffon. This name it derives from the circumstance of the hair on the upper part of the head diverging horizontally from a central point towards an imaginary circumference; thus looking not unlike the round bonnet of a Chinese. Its body is from twelve to fifteen inches long, and its tail quite as much. The whole of the face is hairless, and the forehead, which is strongly wrinkled, is nearly naked. The colour of the upper part of the body is a uniform yellowish gray; the under surface derives a bluish tinge from the skin, which has but a thin covering. Eastern Asia is the native country of this species.

THE DOG-FACED BABOON.

THIS animal, which is between four and five feet high, and inhabits various parts of Africa and Asia, is distinguished by a longer tail than the rest of its kind; in this respect it seems to bear some affinity to the Monkey, and has been classed under that denomination by several naturalists. Its head is large, muzzle long and thick, eyes small, face naked,

and of an olive colour; the hair on its forehead is separated in the middle, and hangs down on each side of the face; from thence down its back as far as



its waist it is long and shaggy, of a bluish gray colour, freckled with dark spots; the hair on the lower part of the body is short; and its buttocks are bare and red. It lives in troops, commits great depredations in gardens and cultivated grounds, and is exceedingly strong, vicious, and impudent.

THE URSINE BABOON

Is not unlike the last, but rather less. Its nose is long, head large, ears short, forehead high and prominent, terminating in a ridge; the body thick and strong, covered with long dusky hair, which gives it the appearance of a young bear; its tail is half the length of its body; its buttocks red.—This animal is very numerous about the Cape of Good Hope. Troops of them make expeditions for the sake of plunder, in which, to prevent being surprised, they place a sentinel, which, upon sight of a man, gives a loud yell; when the whole troop retreats with the greatest precipitation; the young ones leaping on

the backs of their parents, and clinging closely to them. When the Ursine Baboon sees a single person sitting and eating in the fields, it will steal behind him, snatch his food from him, retire to a little distance, and begin to devour it; now and then holding it out in its paws towards the loser, with many laughable grimaces, as if offering to restore the prize. It may be tamed, and will then guard its master's property with all the sagacity and fidelity of a dog.



THE WANDEROO AND THE LOANDO.

As these two animals seem to be but one and the same species, we have, therefore, here preserved the two names they bear in Ceylon, as they at least form two distinct breeds. The body of the Wanderoo is covered with brown and black hairs, and he has a long white head of hair, and a monstrous white beard; the body of the Loando, on the contrary, is covered with whitish hairs, but he has the like large head of hair and beard. There is still a third variety found in the same country, which may, possibly, be the common stock of the other two, because

it is of a uniform whitish colour over its body, with the like head of hair and beard. These animals are baboons, and not, as some have imagined, monkeys, as they have all the characters, as well in shape as in disposition, and are of the same savage nature, and even more ferocious.

“The white monkeys (says Forbin) are sometimes as big as the largest English mastiff: they are more dangerous than the black: they principally attack women, and often, after having greatly injured them, finish their cruelty by strangling. Sometimes they even come to their houses; but the Macaroes, who are very jealous of their wives, take care to prevent their entrance into their habitations; and the females not liking (as the chevalier humorously relates) either the manners or the figure of the paltry gallants, boldly stand on their defence, and with clubs, or whatever other arms they can provide, instead of answering their caresses, oblige their ugly suitors to return, not, however, before they have damaged or plundered every thing they can lay their hands on.” It is, however, exceedingly doubtful whether the white monkey, here described, be of the same species as the Wanderoo.



OF the Monkeys figured in the above group, and which are all young ones, the central figure is supposed to be a species of the *Cercopithecus* genus. The upper parts are of a reddish brown, gradually fading away in a lighter hue, mingled with a bluish tinge beneath. The animal which occupies the right hand of the cut appears to be the common Macaque. It is of a blackish brown above, and lighter and of a bluish cast beneath, with the hands and face nearly black. The left hand Monkey is, most probably, the *Cercopithecus pileatus* of M. Geoffroy St. Hilaire, to which Buffon gives the name of *Guenon Couronnée*, and is, at least, closely allied to the Bonnetted Monkey.

THE MACAQUE AND THE EGRET.

Of all the Apes, or Monkeys, with long tails, the Macaque approaches nearest the Baboon; its body being short and compact, like that animal's; its head thick, its snout broad, its nose flat, its cheeks wrinkled; but it is bulkier and taller than most other Monkeys. It is also so extremely ugly, that it may well be looked upon as a smaller kind of the Baboon, if it did not differ in the tail, which is crooked, but longer and tufted; whereas that of the Baboon, in general, is extremely short. This species is a native of Congo, and other southern parts of Africa. It is numerous, and subject to many varieties with respect to its size, colour, and disposition of the hair. The body of that described by Hasselquist was more than two feet long; and those which we have seen were not above one foot and a half. That which we here term the *Egret*, because of the plume on its head, seems to be only a variety of the first, which it perfectly resembles, excepting the difference before mentioned, and some other slight varieties in the hair. Both of them are tractable and docile; but, independent of the scent which they diffuse around them, they are so misshapen, and even so hideous when they grimace, that we cannot look on them without horror and disgust. These Monkeys go in flocks. Bosman relates, that they take a melon in each hand, under their arms, and one in their mouths, which they go off with; if the pursuit is hot, they drop first that from under their arm, then that from their hand; and if it be continued, they at last let fall that which they had

hitherto kept in their mouths. In other respects, says this traveller, they examine the melon beds carefully, and what does not please them they throw away, and tear up others; so that, by this nicety, they do exceedingly great injuries to many of the orchards and vineyards by their depredations.

THE PATAS

Is a native of the same country, and is nearly of the same size, as the macaque, the body being only somewhat longer, the face not so ugly, and the hair fairer. It is, indeed, of so brilliant a red, that the animal looks as if it were painted. The face is of a flesh colour, and the ears black. The length of this animal is about half a yard. In Senegal it is called the Red Monkey. I am inclined to think, that the Monkey spoken of by Marmol, and said to be of the colour of the wild cat, and to be a native of Africa, is only a variety in the Patas species. These animals are not so subtle as others of their kind, but are possessed of an extreme curiosity. "I have seen them (says Bruce) descend from the top to the branches of very high trees, to view the vessels on the water, which they admired for some time, and seemed diverted with what they had seen; they quitted their stations for their companions to have the same sight: some even threw the branches of the trees at the French, who returned their salute with a musket ball; some were killed, others wounded, and the rest fell on the ground in the utmost consternation. One part uttered most hideous cries, while another was picking up stones to throw at their enemies, and a third were occupied in the

easing of nature into their hands, which presently they sent with vengeance to the spectators; but perceiving, at length, how unequal the battle was, they desisted, and prudently retired."

THE MALBROUCK.

THESE animals are found in Bengal¹, where travellers inform us they plunder whole fields of grain, and plantations of sugarcanes; and while one stands sentinel on a tree, the others load themselves with the booty. But if the owner of the field or plantations appear to interrupt their depredations, their faithful companion on the look out gives notice by crying out *houp, houp, houp*, which the rest perfectly understand; and all at once throwing down their plunder, which they hold in their left hands, they scamper off upon three legs, holding the remainder in their right, and save themselves from their pursuers by climbing up trees, where they have their general abode. The females, even loaded with their young ones, clasp them close to their breast, leap like the others from branch to branch, and escape with the rest. When it happens they cannot find any provision in the fields, they get on the tops of houses, and, having pulled off the tiles, do great damage to the inside. They do not eat a single thing without smelling at it for a long time beforehand; and when they have satisfied their hunger, they put the remainder in the pouches on the sides of their cheeks for the next day: they destroy the nests of birds, and never fail to throw

¹ Some later naturalists are of opinion, that the Malbrouck is not a native of India, but of Africa.

the eggs on the ground when they want appetite or inclination to eat them.

The most formidable enemy these animals have is the serpent, no other animal of the forest being able to surprise them, as they are so exceedingly swift and subtle, and easily climb up and seat themselves on the tops of the highest trees. "The Monkey," says a traveller, "has it in his power to be master of the forest, for there are neither tigers nor lions which can dispute the possession with it: the chief animal it has to fear, and which attacks them both night and day, is the snake. There are some snakes in those forests of a prodigious size, which wind up the trees where the Monkeys reside, and, when they happen to surprise them sleeping, swallow them whole before the little animals have time to make a defence."

The Malbrouck has pouches on each side of its cheeks, and callosities on its posteriors; its tail is very near as long as the body and head put together. The eyelids are of a fleshy, and the face of an ash colour; the ears are large, thin, and of a flesh colour; they have a list of gray hairs on them, like the mona; but in other parts are of a uniform colour, approaching towards a brown on the upper parts of the body, and towards a gray on the lower. It goes on all fours, and is about a foot or a foot and a half long from the snout to the insertion of the tail.

THE MANGABEY.

WE have seen two of this kind of Monkey: both were sent to us by the denomination of *Madagascar Monkeys*. They are however, most probably, natives of the western coast of Africa. They are easily dis-

tinguished by a very apparent character. The Mangabey has its eyelids naked, and of a striking whiteness. It has pouches on each side of its cheeks, and callosities on its posteriors. Its tail is as long as the head and body put together, and it has a prominent roll of hair over its eyes. Its snout is thick and long, its eyebrows rough and bristly, its ears black and almost naked; the hair of the upper parts of its body brown, and those below gray. There is a variety in this species, some being of a uniform colour, and others having a circle of white hair round the neck, and the form of a beard round their jaws. They walk on all fours, and are near a foot and a half long from the snout to the tail. From the peculiarity of their eyelids, they have the name of the White Eyelid Monkey.

THE MONA, VARIED, OR COMMON MONKEY,



Is the most common of the Monkey tribe. We kept one of them alive for many years. This alone is sufficient to prove it is not a native of the hot countries of Africa and India. In fact, it is met with in Barbary, Arabia, Persia, &c. The visage of this animal is of a brown hue, with a kind of white beard, mixed with yellow and a little black; the

back is red and black; the belly and the hind parts of the thighs and legs whitish, though the fore parts of the two last are of a black colour: the tail is of an ash-colour, marked with two white spots, one on each side, at its insertion. On its forehead the hair is of a gray colour, in the form of a crescent, and between the eyes and the ears is a black stripe, as there is from the ears, and shoulders, and arms.

* In general, the disposition of the Monkey is much more tractable than the baboon, and not so sullen as the ape: it is extravagantly spirited, but not ferocious, being docile through fear. The Mona is, in particular, susceptible of education, and even attached to those persons who take care of it. That which we brought up would suffer itself to be stroked and handled by those it knew, but would often bite strangers. It was chained, but was very desirous of its liberty; for, when it either broke its chain or got loose, it would run away, and would not suffer itself to be retaken by any other person than its master. It eat every thing that was offered to it, especially flesh, bread, and its favourite food, fruits. The Mona is about a foot and a half in length.

THE CALLITRIX, OR GREEN MONKEY,

HAS got pouches on each side of its cheeks, and callosities on its posteriors: the tail is much longer than the whole body, and is terminated by a brush of yellow hair. Its head is small, its snout long, and its face and ears of a black colour, with some long yellow hairs on the cheeks: it has a narrow stripe instead of eyebrows, formed of long black hairs: above, it is of a fine olive green colour, with a little yellow mixed with it; and beneath, it is of a

dirty white: it walks on all fours; and the length of its body, including its head, is about fifteen inches.

The *Callitrix* is found in Senegal, as well as in Mauritania and the neighbouring islands. Mr. Adanson relates, that the environs of the woods of Podor on the banks of the Senegal are filled with green Monkeys. "I only discovered these animals (says he), by their breaking off the branches of trees, and throwing them down on my head; for they were so very quiet and nimble in their tricks, that I could scarcely hear them. I did not walk far, before I killed three of them without in the least terrifying any of the rest; however, when numbers felt themselves wounded, they began to retreat, some concealing themselves behind large branches, and others descending and running away; but the greatest number leaped from the top of one tree to another. During this little fray, I killed about twenty-three in less than an hour, without any of them uttering a single cry, although they made an appearance of attacking me."

THE MUSTACHE

SEEMS to be a native of the same country as the macaque. It is, probably, the same animal as the Guinea travellers call *White Nose*, from its upper lips being of a white colour, whereas all the rest of its face is of a deep blue. It seems to be one of the most beautiful of the Monkey kind.

The Mustache has pouches on each side of its cheeks, and callosities on its posteriors. The tail is much longer than the head and body together. Its face is of a deep blue, with a great and broad white mark in the shape of a chevron under the nose,

which is naked. There is only a slight edging of black hair both on the upper and under lip. Its body is short and compact. There are two thick tufts of hair of a bright yellow colour below the ears, and another tuft of bristly hair upon the head; the hair of the body is of a greenish cast, and the breast and belly of an ash colour. It walks on all fours, and is about a foot long. The female is subject to a periodical emanation.

THE TALAPOIN

Is a pretty small animal; its name indicates it to be a native of Siam, and other eastern provinces of Asia, but we cannot speak positively as to that point; however, it is certain it is a native of the Old Continent, and not found any where in the New, from the pouches on each side of its cheeks, and callosities on its posteriors, which characters neither belong to the sagoins, nor sapajous, which are the only animals of the New World which we can compare with the Monkey.

Edwards has given a figure and description of a Monkey, by the name of the Black Monkey, of a moderate size, which seems to approach nearer the Talapoin than any of the rest. It is also, probably, the same species of Black Monkeys which Bosman speaks of, by the name of *Bourdanmetjes*, the skin of which, he informs us, makes a good fur. M. Cuvier, however, is of opinion, that the Talapoin is only the malbrouck in its youthful state.

THE DOUC

Is the last among the class of animals, called Apes, Baboons, and Monkeys. This animal, without belonging to any one of these three precisely, yet partakes of them all. Of the Monkey, in the length of its tail; of the Baboon, in its size; and of the Ape, by the flatness of its face. It has, besides, a very particular character, by which it seems to fill up the chasm between the Monkey and the sapajou. These two families of animals differ between themselves, the Monkey having fleshy posteriors, and all the sapajous having them covered with hair. The Douc is the only Monkey which has hairy posteriors like the sapajou: it resembles it also by the flatness of the snout; but it is infinitely nearer the Monkey than the sapajou, by its long tail, and by other very essential characters. Its variegated skin seems to indicate the ambiguity of its nature, and at the same time distinguishes its species in a very evident manner.

The Douc has no callosities on its posteriors, and is clothed all over with hair: its tail, though long, is not so long as its body and head put together; its face is covered with reddish down with a white beard; the ears are naked, and of the same colour as the face; the lips brown, as are the orbits of the eyes: the colour of the hair is very bright, and very variegated; it has a collar of a purple colour round its neck; its forehead, body, and arms, are white; its hind legs are of a red chestnut; it is black above the forehead and the upper part of the arms; the

parts below the body are of an ash-colour; the tail is white as well as the bottom of the loins; it more frequently walks on two feet than on four; and it is three feet and a half or four feet high when it is upright.

Travellers inform us, that the larger Monkeys of the southern parts of Asia produce bezoar in their stomach, which is superior to that of the bezoar of goats and gazelles. These larger Monkeys of the southern parts of India, are the wanderoo and the Douc. We, therefore, suppose that we must refer the production of the bezoar to this species. It is pretended, that this Monkey bezoar is always of a round form, whereas the other bezoars are of different sizes and figures.



OF THE
MONKEY TRIBE IN AMERICA.

ALL the four-handed animals which we have given a description of, and which we have comprehended under the generical names of Apes, Baboons, and Monkeys, exclusively belong to the Old Continent: and all those which remain to be spoken of, are, on the contrary, only found in the New World. We here distinguish them by two generical names, as we can divide them into two classes; the first into that of the SAPAJOU, and the second into the SAGOIN. Both these animals have their feet nearly like those of the Ape and Monkey kind, but they differ from the Ape in having tails. The sapajou has a very long tail, which it makes use of to seize and lay hold of things, and by which it suspends from the branches of trees. The tail of the sagoin, on the contrary, is proportionably longer than that of the sapajou, but is weak and straight, so that they cannot make use of it either to lay hold of any thing, or for the purpose of climbing: this difference is so very apparent, that it is alone sufficient to distinguish the sapajou from the sagoin.

THE WARINE AND THE ALOUATO

ARE the largest of these animals belonging to the New Continent: they surpass the size of the largest Monkey, and approach the size of the baboon: they have a long tail, and are moreover of the sapajou family, in which they hold a very distinct rank, not

only with regard to size, but also to voice, which sounds like a drum, or, as others say, like the screaming of immense herds of swine, and may be heard at a very great distance. From the excessive noise which they make they have obtained the name of the Howling Monkey. Marcgrave informs us, "that every morning and evening the *Warines* and the *Alouatos* assemble in the woods; that one among them seats himself on an elevated place, makes a sign with his hand to the rest to seat themselves round him; as soon as he sees them all seated, he begins an oration with so quick and loud a voice, that, at a distance, it might be imagined they were all making a noise together. During the whole discourse the rest keep a profound silence, and when it is ended, he makes a signal to the rest to answer him, and immediately they all set up a cry together, till by another sign with his hand he orders them to be silent: when they are immediately obedient and quiet. Then the first renews his discourse, or his song, which when finished, and the others have paid the utmost attention to it, the whole assembly breaks up and separates." This singular noise is made by the instrumentality of a long bony process in the throat. According to the same author, "the face of the Warine is broad, the eyes black and sparkling, the ears short and round, the tail naked at the extremity, with which it holds firmly whatever it encircles: the hair of the body is black, long, and glossy; it is much longer under the chin, which forms a kind of round beard: the hair on the hands, feet, and a part of the tail, is brown. The male is of the same colour as the female, and only differs from it in being a little

larger. The females carry their young on their backs, and thus loaded leap from branch to branch, and from tree to tree. The young one clasps the narrowest part of the body of the mother with its hands and arms, and thus holds itself firmly fastened, whatever motion its parent makes. In other respects, these animals are wild and mischievous: they can neither be tamed nor subdued, and bite dreadfully. As they live only on fruit, grain, and some insects, their flesh is not bad eating. It is like that of the hare, but a little sweetish, for which reason a good quantity of salt is put to that which is roasted: the fat is yellow, like that of the capon, and of a very fine flavour. They easily fasten upon the branches of trees, and stick either by their hands, feet, or tail, wherever they touch, which renders it very difficult to take them, even after they are shot, for if they are only wounded, they will not fall to the ground, but cling to the branch, and remain on the tree where they were shot, till they drop off by putrefaction. What appears singular is, that the moment one of them is wounded, the rest assemble round, and clap their fingers into the wound, as if they were desirous of sounding its depth. If the blood then flows in any quantity, they keep it shut up, while others get leaves, which they chew, and thrust into the orifice. The females bring forth only one at a time."

The Alouato has the same characters as the Warine, and only seems to differ from it in having no beard, and a reddish-coloured hair, whereas, that of the Warine is black.

THE COAITA.

NEXT to the warine and the alouato, the Coaita, or Four-fingered Monkey, is the largest of the sapajous. There was one alive at the Duke of Bouillon's, where, by its familiarity and forward caresses, it merited the affection of those who had it under their care; but in spite of the good treatment and attention paid to it, it could not resist the winter of the year 1764. It differs greatly in disposition from the warine and the alouato, which are wild and untameable. It also differs from them in having but four fingers and no thumb to the fore paws: by this character alone, and its holding tail, it is easily distinguished from the monkey kind. In the use of their tail these animals are singularly dexterous. They can pick up with it even straws and bits of wood; and M. Audebert tells us, that he saw one of the species carry hay in its tail to make its bed, and move and spread it about as easily as an elephant could have done with his trunk.

In climbing, too, this member is of great use. "There are (says Dampier) in the Isthmus of America, numbers of Monkeys, some of which are white, but the most part black—some have beards, others none. These Monkeys are very droll, and performed a thousand grotesque postures as we traversed in the woods. When they are unable to leap from one tree to another, on account of the distance, or the tree being separated by a river, their dexterity is very surprising. The whole family form a kind of chain, locking tail in tail, or hand in hand, and one of them holding the branch above, the rest swing down, balancing to and fro like a pendulum,

until the undermost is enabled to catch hold of the lower branches of some neighbouring tree. When the hold is fixed below, the Monkey lets go that which was above, and thus comes undermost in turn; but, creeping up along the chain, attains the next branches of the tree like the rest; and thus, they all take possession without ever coming to the ground."

They have the address to break the shell of the oysters to eat them. They generally produce only one or two young ones at a time, which they carry upon their backs; they feed upon fish, worms, and insects, but fruit is their general food, and they grow fat when it is ripe, when, it is said, their flesh is good and exquisite eating.

The Coaita is about a foot and a half long, and its tail is longer than the head and body measured together: it goes on all fours.

THE SAJOU, OR CAPUCHIN MONKEY.

WE are acquainted with two varieties in this species; the Brown Sajou, commonly called the *Capuchin Monkey*; and the Gray Sajou, which only differs from the other in the colour of its hair; they are both lively, active, and very pleasing by their tricks and nimbleness. They are, however, fantastical in their tastes and affections: they seem to have a strong inclination for some people, and as great an aversion for others. They are natives of French Guiana. They usually live in troops of from twenty to forty individuals. They often whistle, and when they are enraged they shake their heads violently, and utter, in a ferocious tone, the syllables *Pi, ca, rou*.

THE SAI, OR WEEPER.

WE have seen two of these animals, which seem to make a variety in the species. The hair of the first is of a deep brown; the hair of the second, which we have called the *White-throated Sai*, is white on the breast, neck, ears, and jaws. Travellers have described these animals by the name of *Howlers*, from their plaintive moan. Others have called them *Musk Monkeys*, from their having, like the macaque, that peculiar smell. They belong to the sapajou family, as they have a holding tail: they have only two teats, and bring forth but one or two at a time. They are gentle, docile, and so timorous, that their common cry, which resembles that of the cat, is dwindled down to a kind of sighing when they are threatened. Their food, in this climate, is principally snails and beetles, which they prefer before any other; but in their native country of Brazil, they chiefly live upon grain, and the wild fruit they pluck from trees, whence they very seldom descend till they have stripped their habitation of its treasure.

THE SIAMIRI

Is vulgarly known by the name of the *Golden*, *Orange-coloured*, or *Yellow Sapajou*. It is common in Guiana, where it is called *Camiri* by the natives. By its air, size, the brilliant colour of its coat, the fulness and brightness of its eyes, and its small, round visage, the Siamiri has ever taken the lead of every other Sapajou: it is, in fact, the most beautiful and delicate of the kind, and the most difficult to

transport and preserve in other countries. Its tail, without being absolutely useless and weak, like that of the sagoin, is also not so muscular as that of the sapajou : its tail may be said to be but half-holding ; and though it makes use of it to climb up trees, yet it can neither strongly hold, nor firmly fix itself with it. It is scarcely more than ten or eleven inches in length. It sits upright on its hinder feet with great ease : but it walks commonly on all fours.

Captain Stedman tells us, that he daily saw them passing along the sides of the river, in regular order, with their young at their backs, looking not unlike small knapsacks. The foremost of them leaps from the extremity of one bough to that of another, which is often at a surprising distance, and so active are these animals, and so well do they measure the intervening space, that he never misses his aim. All the rest follow him in succession ; and even the females, burthened as they are with the young ones, which cling closely to the mother's back, perform the same leap with equal safety.

THE SAKI,

COMMONLY called the *Fox-tailed Monkey*, from its tail being clothed with very long hair, is the largest of the sagoin kind, being about seventeen inches long ; whereas, the size of the five other sagoins is not above nine or ten. The Saki has very long hair on its body, and still longer on its tail. Its face is red, and covered with a whitish down. It is a native of Guiana, and lives in the woods, but is rare. The female brings forth but one offspring at a time.

THE TAMARIN, OR GREAT-EARED MONKEY.

THIS animal, which is a native of the hottest parts of South America, is about the size of a squirrel, and has a naked face, of a swarthy flesh colour; its upper lip somewhat divided; its ears are very large and erect; its hair is soft, shaggy, and of a black colour: the hands and feet are covered with orange-coloured hair, very fine and smooth; its nails are long and crooked; and the tail is black, clothed with short hair, and twice the length of its body. It is a lively, pleasant animal; easily tamed; but so delicate, that it cannot bear a removal to a less temperate climate.

THE WISTITI, OR STRIATED MONKEY.



THE name of this animal is taken from the sound of its voice. It is smaller than the tamarin, being not above six inches long, and its tail more than double that length, which is annulated black and white, like the macaque. Its face is naked, and of a flesh colour. It has two very singular tufts of long white hair on the fore part of the ears, which, although

very large, cannot be seen by looking at the full face of this animal. Mr. Edwards says, that, when it is in good health, it has much hair and tufted; that one of those which he saw, and which was healthy, fed on several things, as biscuits, fruit, pulse, insects, snails; and, being one day unchained, he struck at a little gold fish which was in a glass globe, killed it, and devoured it with the greatest avidity; that afterwards, some small eels being put before him, he was frightened when they twisted about his neck, but that he soon conquered and eat them. It is a great enemy to cats. These animals, when young, have an ugly appearance, having scarcely any hair on their bodies. They cling closely to the teats of their dam; and as they grow older, they fix themselves on her back or shoulders; when she is weary of carrying them, she releases herself by rubbing against the wall.

The Striated Monkey is of a hardy nature, and has sometimes produced young ones in Europe, even as far to the north as Paris. Most of the individuals have a somewhat musky smell. The voice is a kind of shrill hissing whistle.

THE MARIKINA

Is sufficiently known by the vulgar name of the Small Lion Monkey. It is about eight inches long, and has a small tuft of hair at the end of the tail; its hair is tufted, long, soft, and glossy; the head is round; the face is brown; the eyes red; the ears round, naked, and concealed under the long hair which encompasses the face. This hair is of a bright red; that on the body and tail of a very pale yellow, approaching towards white. This animal

has the same manners, the same vivacity, and the same inclination as other sagoins, and seems to be of a more robust temperament. We have seen one which lived five or six years at Paris, by the care alone of keeping it, during the winter, in a chamber wherein a fire was kept every day. It is a native of Guiana and Brazil, especially in the vicinity of Rio Janeiro, and is a favourite pet of the Creoles.

THE PINCH, OR RED-TAILED MONKEY,



Is about nine inches long; and its tail is as long again. It is remarkable for a kind of white and striped hair on the top and sides of the head; its face is black, shaded by a small gray down; its eyes are black; its tail of a bright red at its insertion, and even as far as half its length, where it changes to a deep brown. The hair of the upper parts of the body is of a brown colour; that of the breast, belly, hands, and feet is white; the skin is black, even where covered with white hair; its throat is naked, and black, like its face; its voice is soft, and resembles more the chirping of a little bird than the cry of an animal; it is very delicate, and cannot be transported from America into Europe, without the greatest precaution.

THE MICO.

WE owe the knowledge of this animal to M. de la Condamine, and shall therefore give this author's account of it, in his Voyage up the Amazons River. "The Mico which the governor of Para made me a present of, was the only one of its kind that had been seen in the country. The hair of its body was of the most beautiful silver colour, its tail glossy, and approaching to black. It had another more remarkable singularity; its ears, jaws, and snout were tintured with so bright a vermilion as scarcely to be thought natural. I have had it a year; and it was alive at the time I was writing this account, almost within sight of the French coast, where I hoped to have brought it alive; but, notwithstanding the continual precautions that I took to preserve it from the cold, yet the rigour of the season probably killed it."



CHAP. XXII.

The Tartarian Cow...The Tolai...The Zisel...The Zemni...The Pouch...The Perouasca...The Souslik...The Golden-coloured Mole...The White Water Rat...The Guinea Hog...The Wild Boar of Cape Verd...The Mexican Wolf...The Alco...The Tayra...The Philander of Surinam...The Akouchi...The Tucan...The Brazilian Field Mouse...The Aperea...The Tapeti...The Juda Goat...The Kangaroo...The Silver-haired Kangaroo...The Kangaroo Rat...The Wombach...The Duck-billed Platypus....A View of the Animals peculiar to each Continent.

THE TARTARIAN COW.

MR. GMELIN, in the new Memoirs of the Royal Academy at Petersburg, has given the description of this animal, which seems, at first sight, to be a quite different species from all those we have spoken of under the article of Buffalo. "This cow," says he, "which I saw alive, and had painted in Siberia, came from Calmuchia, and was about the length of two Russian ells and a half; by which model we may judge of the other dimensions. The body resembles that of the common cow; the hair on the body is black, except on the forehead and spine of the back, where it is white. The neck is covered with a mane, and all the rest of the body with a very long hair, which descends to the knees, so that the feet appear very short; the back is raised in the form of a hunch; the tail resembles that of a horse, white and well clothed with hair; the fore feet are black, and the hinder ones white; there are two

tufts of long hair, one before and the other behind. The excrements are of a more solid nature than those of the common cow ; and it grunts like a hog. It is wild, and even ferocious ; for, excepting the man who feeds it, it butts all those that come near it with its head ; and it dislikes the company of domestic cows." This animal, which is called the Yack, lives wild in the mountains of Thibet, and has been domesticated by the Mongols. Its tail is used as a standard by the Oriental nations.

THE TOLAI.

THIS animal, which is very common near Baikal Lake, in Tartary, is in size between a hare and a rabbit, the latter of which it resembles in shape, quality, smell, and colour, and also in the habit of burrowing in the earth to conceal itself. It differs only in the tail, which is considerably longer than that of the rabbit, and is black above and white underneath. Its head and back are a pale gray, mingled with brown ; the breast and under part of the body are white, as are also the muzzle and round the eyes.

THE ZISEL.

THIS animal, which is also called the Earless Marmot, is smaller than the hamster : its body is long and slender, like the weasel ; whereas, that of the hamster is thick and compact, like that of the rat. It has no external ears, but only auditory passages concealed under the hair. The Zisel is of a grayer, or of a more uniform colour, than the hamster ;

and the latter is marked in the fore part of its body with three large white spots on each side. These differences, joined to that of their not mixing together, though natives of the same country, are sufficient to leave us not the least room to doubt of their being two different species. It inhabits Russia, as far as Kamtschatka, and the islands between Asia and America; it is found also in Persia and China, but rarely in any part of Europe, except Russia. It never frequents bogs and woods, but dwells in open, high, dry, and uncultivated places, and prefers turfy and loamy soils, near the high roads. Each individual has its separate burrow, in which it lays up its store of winter provision. During the great severity of the frost it lies torpid. In size they vary considerably; some being as large as the marmot, others no bigger than the water rat. Their colour is as various; but generally it is a yellowish white on the upper parts, and dirty white on the belly. When the fur is varied with waves or small spots of white, the animal is the Souslik, described by Buffon in a subsequent page of this chapter.

THE ZEMNI.

THERE is another animal in Poland and Russia, which is called *ziemni*, or *zemni*, of the same race as the *zisel*, but larger, stronger, and more mischievous. It is somewhat smaller than the domestic cat; its head is large, its body slender, and its ears short and round. These have four great incisive teeth: the two in the lower jaw are thrice as long as the two in the upper. The feet are very short and hairy, divided into five toes, and armed with crooked

claws ; the hair is soft, short, and of a mouse gray colour ; the tail moderately large ; its eyes small and hid, like those of the mole. Its disposition and habitudes are nearly the same as those of the hamster and zisel ; its bite is dangerous ; it eats greedily, and plunders orchards and gardens ; it burrows ; and lives upon grain, fruit, and pulse, which it stores in magazines for its winter support. Pennant names this animal the Podolian Marmot.

THE POUC,

CALLED also the Surmulot, is larger than the domestic black rat ; its snout is long ; its fur is gray, with brown above, and white beneath ; its tail is almost as long as its body. It burrows, and commits depredations in the gardens, &c. - Though not web-footed, it swims well. There are such numbers near Suraz and in Volhinia, that the inhabitants were obliged to abandon the culture of their gardens. Its native country is India, whence it was introduced into France in 1750, and has since been very common in the seaports.

THE PEROUASCA,

WHICH the Russians call *Perewiaska*, and the Polanders *Pizewiaska* (a name we may translate the *cinctured weasel*), is not so large as a polecat, covered with a whitish hair, transversally striped of a reddish colour, which stripes appear as so many girdles. It lives in the woods, and burrows in the earth ; its skin is sought after, and makes a very beautiful fur.

THE SOUSLIK.

THERE is found at Casan, and in the provinces which the Volga pervades, a small animal, called *Souslik* in the Russian tongue, of which very beautiful furs are made. Its tail is short, like the field mouse: but what distinguishes it from that and every other rat, is its coat, which is of a grayish hue, sprinkled with small spots of a glossy and bright white colour: these little spots are exceedingly small, at a small distance from each other; they are more apparent upon the loins of this animal than on the shoulders and head. "The rats called Sousliks," says M. Sanchez, "are taken in great numbers on the salt vessels in the river Kama, which descends from Salikamskia, where the salt pits are, and falls into the Volga below Casan. The Volga, from Simbuski to Somtoff, is covered with these salt vessels; and these animals are taken on those vessels, and the borders of those rivers: their name is Souslik, i. e. *dainty-mouthed*, because they are very fond of salt."

THE GOLDEN-COLOURED MOLE.

NOT to omit any animals that belong to the North, we shall take notice of a kind of mole found in Siberia, called the *Golden-coloured Mole*, the species of which may be different from the ordinary mole, because the Siberian has no tail, and a short snout; only three toes to the fore feet, and four to the hinder; whereas, the common mole has five toes on every foot. The snout is shorter than that of the

common mole; the nose naked; the head and body about four inches long; the fur above is varied with glossy green, golden and reddish copper colour, the lower is a cinereous brown. Pennant calls it the Siberian Mole, but it is also found at the Cape of Good Hope.

THE WHITE WATER RAT.

THE European Water Rat is again seen in Canada, but its colour is different: its back only is brown; the rest of the body is white and brown: the head and snout are white, as is the extremity of the tail; the hair seems softer and more glossy than that of our Water Rat; but they are alike in every other respect; so that we cannot doubt but that these two animals are of the same species; the whiteness of the hair being produced by the coldness of the climate.

THE GUINEA HOG

Is nearly of the same figure as our hog, and about the same size as the Siam hog; that is to say, smaller than our boar, or our hog. It is a native of Guinea, and has been transported into Brazil, where it has multiplied, as in its native country; it is domestic and tame: its hair is short, red, and glossy; it has no bristles, not even on the back; the tail only, and the crupper near the tail, are covered with longer hair than the rest of the body: its head is not so large as that of our hog; and its ears are very long, and turned backwards over its neck; its tail is as much longer, almost touching the ground; and it has no hair towards its extremity.

THE WILD BOAR OF CAPE VERD.

THERE is another hog, or wild boar in Africa, which is found from Cape Verd to Congo, and also in Madagascar. By the number of its teeth, and enormous size of its two tusks of the upper jaw, it seems to be of a different breed, and, perhaps, of a different species, from every other hog, and approaches nearer the babiroussa. These tusks resemble ivory horns, rather than teeth ; they are half a foot long, and five inches round at the base, and are crooked nearly like the horns of a bull. This animal resides principally in subterraneous recesses, which he digs with his nose and hoofs ; he is exceedingly strong, and in his wild state is of a savage nature.

THE MEXICAN WOLF

HAS the same figure, the same appetites, and the same habitudes as the European or North American wolf ; and every thing seems to prove them to be of one and the same species ; its head, however, is larger, its neck thicker, and the tail not so hairy ; above the mouth, there are some thick bristles, but not so rough as those of the hedgehog ; the body is covered with grayish hair, marked with some white spots ; the head, which is of the same colour as the body, is crossed with brown stripes ; and the forehead is adorned with fallow-coloured spots ; the ears are of a gray colour, like the head and body. There is a long spot, of a fallow colour, on the neck ; a second spot, like the first, on the breast ; and a third on the belly. The flank is marked with trans-

versal lists, from the back to the belly. The tail is gray, and marked with a fallow spot on the middle; the legs are striped, from top to bottom, of a gray and brown colour. This Wolf, as we observe, is the most beautiful of the kind ; and its fur is greatly valued.

THE ALCO,

OR MEXICAN DOG.

BESIDES the dogs, says Fernandez, which the Spaniards have transported into America, we meet with three other species there, which resemble ours, both in nature and manner, and which do not greatly differ from it in form. The first, and the longest of these American dogs, is that called *Xoloigtcuintli*. What is particularly remarkable in these animals, is, their being without hair, and only covered with a soft, close skin, marked with yellow and blue spots. The second is clothed with hair, and, with respect to its size, sufficiently resembles our little Malta dogs. It is marked with white, black, and yellow ; it is singular and amusing by its deformity, having a hunched back, and an exceedingly short snout ; so that the head seems to shoot immediately out of the shoulders ; it is called *Micuacanens*, from the name of its country. The third kind of these dogs, called *Techichi*, sufficiently resembles our little dogs ; but its look is dull and savage. The Americans eat their flesh. The word *Alco* appears to be a generical term.

THE TAYRA,

OR GALERA,

WHICH Pennant calls the Guinea Weasel, is about the size of a small rabbit, and resembles the weasel or the ferret. It burrows like those animals, and has its fore feet very strong, and considerably shorter than the hinder ones. Its snout is elongated, a little pointed, and adorned with a whisker. The body is oblong, and greatly resembles that of a rat; it is covered with brown hair, some of which is pretty long, and in others much shorter. It is a native of Guinea, very common about the Negro villages, and exceedingly destructive to poultry.

THE PHILANDER OF SURINAM.

THIS animal belongs to the same climate, and is of a near species to the sariga, marmose, cayopolin, and phalanger. It has very sparkling eyes, surrounded with a circle of deep brown hair. The body is covered with a soft hair, or rather a kind of wool, of a reddish colour, which is fair on the back, and of a yellowish colour on the snout, forehead, belly, and feet. The feet resemble the hands of the ape; the fore feet having four fingers and a thumb, with short and obtuse nails; whereas, only the thumb or great toe of the hinder feet is flat and obtuse, the rest being armed with small, sharp claws. The young of these animals grunt somewhat like a pig: they get on the back of their dam, and fix themselves there, by fastening their tails to hers. In this situation, which is familiar to them, they are carried with as much safety as swiftness.

THE AKOUCHI

Is common in Guiana, and other parts of South America, and inhabits also St. Lucia and Grenada. It differs from the agouti by having a tail. The Akouchi is generally smaller than the agouti; but its hair is not red, but olive.

THE TUCAN, OR MEXICAN SHREW,

Is a little larger than our mole, and, like that, is fat and fleshy, with such very short legs, that its belly touches the ground. Its tail is short; its nose sharp; its ears small and round; its eyes so very small, that they may be said to be useless; but differs from the mole in the colour of its hair, which is of a reddish hue, and by the number of toes, having only three to the fore feet, and four to those behind. It seems still farther to differ from it, by its flesh being good to eat. It burrows, and makes such a number of cavities, that travellers can scarce tread with safety. If it gets out of its hole, it knows not how to return, but begins to dig another.

THE FIELD MOUSE OF BRAZIL

Is considerably larger than ours, being about five inches from the extremity of the snout to the insertion of the tail, which is only two inches, and, consequently, much shorter in proportion than that of the common field mouse. Its snout is pointed, and its teeth very sharp.

THE APEREA.

THIS animal, which is found in Brazil and Paraguay, is neither a rabbit nor a rat; yet it seems to partake something of both. It is about a foot long, by seven inches in circumference. The hair is of the same colour as our hares, but white upon the belly. It has also, like that animal, a slit lip, large incisive teeth, and a whisker about the mouth; but its ears are rounded, like those of a rat; the fore legs are only three inches high; those behind are longer. The Aperia has got no tail; its flesh is like that of a rabbit, which it resembles in its method of living: it conceals itself in holes, but does not burrow like a rabbit, but rather retires into the cavities of the rocks and stones. It is very easily taken. Lesson states it to be the Guinea pig in its wild state.

THE TAPETI

Is found in Brazil, and other parts of America. It resembles the European rabbit in figure, and the hare in size and colour; its ears very long, and of the same shape; its hair is red on the forehead, and whitish on the throat; some have a circle of hair round the neck: they are all white on the throat, breast, and belly; they have black eyes, and whiskers like the rabbit, but have no tail. The Tapeti resembles the hare in its method of living, fecundity, and the quality of its flesh, which is excellent food. It lives in the fields, or woods, like the hare, and does not burrow like the rabbit.

THE JUDA GOATS

ARE considered by our author as only varieties of the common goat. One species has short, smooth, erect horns, curved a little forwards, and is about the size of a kid of a year old. The other is also of a dwarfish size, but of quite different horns. They are very thick, rounded on the upper surface, with two sharp edges below; and bent backwards, with a slight spiral twist downwards, outwards, and upwards.

THE KANGUROO.



THERE exist several species of the Kangaroo, all of which are natives of New Holland. The principal of these is the Great Kangaroo, which was first discovered in 1770, by some of the persons who

accompanied Captain Cook. It often measures nine feet in length from the tip of the nose to the end of the tail, and, when full grown, weighs two hundred pounds. The head and neck are very small, while the lower parts gradually dilate to a very great size; the fore legs are hardly nineteen inches long, while the hinder ones, which are perfectly bare and callous beneath, measure three feet seven inches. The head bears some resemblance to that of the deer, having a mild and placid visage; the ears are moderately large and erect, the eyes full, and the mouth rather small. The general colour is a pale brown, inclining to white underneath. From the great difference in length of the fore and hind legs, the pace of this animal consists in vast springs, or bounds, which are said at times to exceed twenty feet in length. It can with ease leap over an obstacle above nine feet high. In its state of rest, it sits erect on the whole length of the hind feet, supporting itself by the base of the tail; which is occasionally used as a weapon of defence, and is of such prodigious strength as to be able to break the leg of a man at a single blow. The female seldom produces more than one young one at a birth, which, when first brought forth, is not above an inch long, and is received into an abdominal pouch, that the female is furnished with, which conceals the teats, and serves as a receptacle to secure the young in time of danger.

THE SILVER-HAIRED KANGUROO

Is considerably smaller than the former, and distinguished by the delicacy of its limbs and the superior fineness of its hair.

THE RAT KANGUROO

DIFFERS from the common species in being only the size of a rabbit. The colour is brown with long coarse hair, ash-coloured beneath; the ears are more rounded, and there are only four toes on the fore feet. On each side of the upper lip are several long whiskers, which are wanting in the great Kangaroo; the head is rather flattened sideways, and the general appearance of the animal is far less elegant and pleasing.

The habits of the Kangaroo have been recently described, with equal animation and fidelity, by Mr. Cunningham, in his amusing and valuable account of his *Two Years' Residence in South Wales*.

“ Our largest animals (says he) are Kangaroos; all of which are fine eating, being clear of fat except about the tail, tasting much like venison, and making most delicious stews and steaks, the favourite dish being what is called a steamer, composed of steaks and chopped tail (with a few slices of salt pork) stewed with a very small quantity of water for a couple of hours in a close vessel. We have the forest Kangaroo, of a gray colour, with a longish fur, inhabiting the forests; the Wallaroo, of a blackish colour, with a coarse shaggy fur, inhabiting the hills; and the red Kangaroo, with smooth, short, close fur, of a reddish colour (resembling considerably in fineness and texture the fur of the sea otter), inhabiting the open forests; and all of these varieties attain the weight of two hundred pounds and upwards when full grown. The Wallabee and Paddymalla grow

to about sixty pounds each, and inhabit the bushes and broken hilly country. The rock Kangaroo is very small, living among the rockiest portions of the mountains; while the Kangaroo rat, or, more properly, rabbit, is about the size of the smallest of the latter kind of animal, and lodges in hollow trees, hopping along, like the other Kangaroos, with great speed, and affording good sport in the chase. The Kangaroos make no use of their short fore legs except in grazing, when they rise upon them and their tail, bring their hind legs forward, and go nibbling upon all fours, pulling up occasionally some favourite plant with their fore paw, and sitting up bold and erect upon their hind houghs and tail, while they slowly bite and nibble it, shifting it from paw to paw, like a boy protracting his repast on a juicy apple. When chased, they hop upon their hind legs, bounding onwards at a most amazing rate, the tail wagging as they leap, and serving them for a balance. They will bound over gullies, and down declivities, the distance of thirty yards, and fly right over the tops of low brushwood; so that, in such places, dogs stand very little chance with them; but in a clear open country soon tire them out. The dogs seize them generally by the hip, and throw them over; then fasten upon their throats and finish them. But few dogs will attack a large Kangaroo singly, some of the two hundred weight size often hopping off with three or four assailants hanging about them; and I was informed of one that actually carried a man to some distance. When a dog gets up close to a large Kangaroo, it will often sit upon its tail and haunches, and fight the dog, turning adroitly round and round (so as always to face him), and pushing him off with the fore paws,

or it will seize and hug him like a bear, ripping him up with the long sharp claw on its powerful hind leg. They are constantly indeed cutting, and often killing, dogs with this terrible weapon, which will tear out the bowels at a single kick; and a large Kangaroo is, on this account, very dangerous even for a man to approach, when set at bay. The Kangaroo hunters immediately hamstring them when thrown, to prevent injury to themselves or the dogs; while the black natives give them a heavy blow over the loins with their waddie, which completely paralyzes their hind legs, as all the large nerves supplying these parts pass out there. The Kangaroo has only one young at a time, which you may see attached by the mouth to the nipple inside the mother's pouch, from the period it is the size of your thumb top, and as bare and unshapen as a new-born mouse, until it attains the size of a poodle-dog, with a fine glossy coat of hair, ready to leap out and hop along after the mother. The young are attached by the mouth to the nipple in somewhat the same way as the placenta of other animals is attached to the uterus, the mouth being contracted round the nipple, which swells out like a cherry inside it, nourishing the foetus by means of absorption through this indirect channel, the mouth and nipple adhering so strongly that it requires considerable force to separate them. When the foetus arrives at sufficient age to suck, it drops off the nipple, and may then be said to be *born*, yet still continuing inside of the pouch, and sucking milk now through the ducts of that same nipple from the external surface of which it formerly derived a very different species of nourishment. The manner in which the young reach this pouch from the ovary, and attach themselves to the nipple, is

still, I believe, a mystery, as no communicative duct has yet been found; but the natives assert they are born in the usual way, and that the mother places them there. It is amazing to see the young Kangaroo pop its head out of the pouch when the mother is grazing, and nibble too at the tender herbage which she is passing over. When hard hunted, the mother will stop suddenly, thrust her fore paws into her pouch, drag out the young one and throw it away, that she may hop lighter along. They are always very hard pressed, however, before they thus sacrifice the life of their offspring to save their own; and it is pitiful to see the tender sympathetic looks they will sometimes cast back at the poor little helpless creatures they have been forced to desert. From this singular mode of gestation, you may handle the *fœtus in utero*, and pull it about by the tail like a kitten, from the first moment of its appearance there up to the very day of its birth, without causing either pain or annoyance to it or its mother. Such is the very singular manner in which nearly all our Australian quadrupeds are generated and brought forth. When the young Kangaroo has attained a considerable size, it will crawl out, feed about, and creep in again to warm itself, or in case any danger approaches. The Kangaroos feed early in the morning, when the dew is on the grass, which is the best time to hunt them. If there is no dog in your pack that will show the game, you must keep sight of the dogs at full gallop to secure it, or else take out a little short-legged terrier, that will run the foot, and that you can readily keep sight of till it reaches the others, otherwise you may lose all your sport, as few of our dogs give tongue either in the chase or at the death. If there is a river or pond near, the Kangaroos

are sure to retreat thither when hard pressed, and in this way readily baffle the natives' dogs, by shoving under water and drowning such as may venture in beside them. From the great length of their hind legs and tail, they are enabled to stand on the firm bottom while the dogs are obliged to swim; and in this way a fight between a large Kangaroo and a pack of dogs affords a most amusing spectacle. The Kangaroo stands gravely upright, with his fore paws spread out before him, wheeling round and round to ward off his assailants; and whenever one arrives within his reach, he pounces his paws upon him, and sousing him suddenly under, holds him fast in this position, gazing all the while around with the most solemn simpleton sort of aspect, heedless of the kicking and sprawling of his victim, whom he quickly puts an end to, if some courageous colleague does not in good time advance to its aid, and force the Kangaroo to let his half-drowned antagonist bob above water again, who paddles forthwith towards shore, shaking his ears and looking most piteously, with no inclination to venture in a second time, notwithstanding all the halloos and cheerings with which you urge him."

The Kangaroo may be domesticated. "One of the largest tame Kangaroos I have seen in this country (says Mr. Cunningham) is domesticated, and a mischievous wag he is, creeping and snuffing cautiously towards a stranger, with such an innocently expressive countenance, that roguery could never be surmised to exist under it; when, having obtained, as he thinks, a sufficient introduction, he claps his fore paws on your shoulders (as if to caress you), and raising himself suddenly upon his tail, administers such a well put push with his hind

legs, that it is two to one but he drives you heels over head! This is all done in what he considers facetious play, with a view of giving you a hint to examine your pockets, and see what *bon bons* you have got for him, as he munches cakes and comfits with epicurean *gout*; and if the door is ajar, he will gravely take his station behind your chair at meal time, like a lackey, giving you an admonitory kick every now and then, if you fail to help him as well as yourself."

THE WOMBACH.

THIS animal is a native of New South Wales, and was discovered in the year 1798. It is about the size of a badger, a species of which it was supposed to be, from its dexterity in burrowing in the earth by means of its fore paws; but, in its general motions, it appeared to have much of the habits and manners of a bear. It has a large head, a broad forehead, a face tapering to the nose, which is a hard gristly substance, well adapted for removing the earth when it burrows; each jaw has two cutting teeth, long and sharp like those of a kangaroo, with a space of an inch between them and the grinders, which are strong and well set. From the structure of its teeth, it does not appear to be a carnivorous animal: its eyes are small and black; its ears short and pointed. The paws are something like a beaver's, with which it runs so awkwardly that a man could easily overtake it. Its posteriors differ from most other animals, by falling down in a sloping direction, commencing at the hip joint, and descending to the knee joint of the hind legs: its tail is so short that it is scarcely perceivable. The general colour is of a cream-brown,

intermixed with black hairs. The female, like most other animals of New South Wales, is distinguished by a pouch or false belly for its young. The flesh is considered by the natives as a great luxury.

THE DUCK-BILLED PLATYPUS.

NEW HOLLAND, which, among other living curiosities, has supplied us with that *rara avis* the black swan, is also the country that produces this anomalous animal, one of the strangest sports of nature, as it combines the bill of a bird with the usual characteristics of a quadruped. So singular is this union, that it was at first supposed to be the trick of some person, for the purpose of imposing on collectors. When the creature was first discovered, it received the allusive name of *Ornithorynchus Paradoxicus*; but it has since been denominated the *Platypus Anatinus*, or Duck-billed Platypus. It has a depressed body, somewhat resembling that of an otter in miniature, which is covered with a soft fur, dark brown above, and of a ferruginous white beneath. The head is flattish, and the snout so exactly resembles that of some broad-billed species of duck, that it might easily be mistaken for such. The tail is flat, furry, and of the same colour as the body. The length of the whole animal, from the tip of the beak to that of the tail, is thirteen inches; of the beak an inch and a half. The legs are very short, and terminate in a broad web, which on the fore feet extends to a considerable distance beyond the claws; but on the hind feet reaches no farther than the roots of the claws. On the upper part of the head, on each side, a little beyond the beak, are

situated two oval white spots, in the lower part of each of which the eyes are embedded.

From the general form of this animal, and particularly its bill and webbed feet, it may naturally be concluded, that it resides in watery situations; that it has the habit of digging or burrowing in the banks of rivers, or under ground; and that its food consists of aquatic plants and animals.

After so copious a history of quadrupeds as that which has just been submitted to our readers, a very few words appear necessary to complete the Natural History of that class of animals.

On one topic only we shall therefore enlarge.—It has been frequently intimated, that a material difference exists between the animals of the Old and the New Continent. While America far exceeds us in the size of its reptiles, it is far inferior in its quadruped productions. In effect, so materially different are many of them found which inhabit the New Continent, from those of the Old, that, though we have generally noted the country of the animal we have described, yet we conceived that it might not be unsatisfactory to the reader, if we endeavoured to exhibit a synopsis of the quadrupeds which are peculiar to each Continent. In pursuing this plan, we have made two columns; the one for Europe, Asia, and Africa; the other for America. When we have found an animal of the New Continent resembling nearly that of the Old, we have placed it opposite in the same line: and those which are common to both we have placed in the middle, between the two columns.

Europe, Asia, and Africa.	Common to all.	America.
Elephant		
Rhinoceros.....	Tapir	
Hippopotamus		
Camel		Llama
Dromedary		Paco
Camelopard		
Lion		Puma
Tiger		Jaguar
Panther		Couguar
Leopard.....		Jaguarett
Ounce		Mountain Cat
Zebra		
Horse		{ Though not originally found there, horses and asses are now plenty in America.
Ass		
Ox		{ These also are now numerous.
Buffalo.....		
	Bison	
Sheep		{ These also are now produced in America.
Goat		
Hog		Now produced there.
		Peccary
Guinea Hog		Now produced there.
Dog		Now produced there.
		Alco
		Goschis
Hyæna		
Jackall		
Porcupine		Urson
		Couanda
Genet		
Civets.....		A species of them is said to have been found there originally.
Cat		Now produced there.
Antelope		
Guinea Stag		
Chamois		
Ibex		
Musk		
Rabbit.....		Now produced there.
		Tapeti
Ferret		
Rat.....		Now produced there.

Europe, Asia, and Africa.	Common to all.	America.
Mouse		Aperea
Fat Squirrel		Brazilian Field Mouse.
Garden Squirrel		
Ichneumon		
Badger		
Sable		Pekan
Ermine		Vison
		Stinkards
Jerboa		
Maki		
Several Species of Monkeys.....		Sapajou and Sagoin
		Racoon
		Cabiai
		Tajacou
Pangolin and Phatagin		Ant-eaters
		Sloth
Rein-deer.....		Cariacou
		Couandou
		Agouti
		Coati
		Opossum
		Paços
		Indian Hog
		Cavy
		Armadillo
		Kangaroo
	Rat	
	Rein-deer	
	Stag	
	Bear	
	Roebuck	
	Hare	
	Squirrel	
	Hedgehog	
	Otter	
	Marmot	
	Shrew Mouse	Mexican Shrew
	Mole	
	Beaver	
	Wolf	Mexican Wolf
	Fox	
	Weasel	Tayra
	Ermine	

Europe, Asia, and Africa.	Common to all.	America.
	Pine Weasel	
	Polecat	
	Lynx	
	Seal	
	Walrus	
	Roebuck	Mazame
	Elk	
	Glutton	
Pouch	Dormouse	
Desman	Ondatra.	

Of the two hundred species of Quadrupeds which Buffon supposes to exist, he calculates, that about ninety are original inhabitants of the Old Continent, and about seventy of the New, and that forty may be accounted common to both. Since the period when he wrote, the number of species has been much increased.





